

Current History

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SEPTEMBER, 1979

THE PEOPLE'S REPUBLIC OF CHINA, 1979

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Current History

SEPTEMBER, 1979

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How are the "four modernizations" affecting China's political and economic stability and her relationship with the West? Has China's role changed in Asia? Questions like these are evaluated in this issue on the People's Republic of China. Our introductory article explores China's changing relationship with the capitalist world, noting that "More concerned with results than with principles, China's current leaders are firmly committed to forms of economic interaction with the industrial nations that would once have been unacceptable."

China's Economic Outreach

BY JOHN BRYAN STARR

Professor of Politics, Yale University

CHINA'S interaction with the market economies of Japan, Europe and the United States over the course of the last half of 1978 and the first half of this year reflects China's current development program—the so-called four modernizations of agriculture, industry, defense and science and technology.¹

The most fundamental principle modified by the current development program was self-reliance, more flexibly interpreted by his successors than it was by Chairman Mao Zedong. Even Mao advocated borrowing from the advanced nations of the West where appropriate, despite his view that China should be self-reliant internationally. The current leadership believes that China must have aid from the advanced nations to achieve the goals she has set herself.

Thus China's dislike of any sort of foreign debt—a policy maintained almost without exception through the very recent past—has given way to the search for foreign credits to finance the current development program. Because she avoided borrowing in the past, China's credit-worthiness is very high;² thus, Western nations have concluded tentative arrangements with

the Chinese for the extension of a considerable long- and short-term credit.

China is now proposing to Western firms forms of economic interaction once regarded as unacceptable because of their parallels with China's experience of imperialism in the late nineteenth and early twentieth centuries. Under one such arrangement, termed a "joint venture," foreign firms invest capital in the construction and outfitting of a plant in China and retain partial ownership of that plant for a specific period before selling their interest in the plant to the Chinese and repatriating their capital. Another suggested form of cooperation is known as "compensation trade," whereby foreign investment in plant, equipment and expertise is repaid by the exportation of a fraction of the output of the plant for sale in third countries. In both instances, the availability of Chinese raw materials and relatively cheap labor serve as the principal drawing cards for foreign investors, who receive further incentives in the form of preferential tax arrangements.

The willingness of Western firms to participate in arrangements like these, however, has been contingent on the development of a commercial legal code in China. Preferring informal legal practices, the Chinese government has heretofore largely avoided formulating detailed codes. During 1978-1979, however, a commission of party and government cadres and academics was formed to draft both commercial and criminal codes. Peng Zhen, a former mayor of Beijing purged during the Cultural Revolution, was appointed to head this commission. The results of its work were presented for approval to the second

¹This development program, with particular reference to its domestic implications, is discussed in John Bryan Starr, "China's New Course," *Current History*, vol. 75, no. 439 (September, 1978), pp. 49-52, 84.

²The U.S. Department of Commerce, for example, estimated in the early spring that the Chinese economy has the capacity to carry between \$20 and \$25 billion in debt over the next six years. See their Office of East-West Policy and Planning report, *U.S. Trade with China: Prospects through 1985* (Washington, D.C.: February 12, 1979).

session of the fifth National People's Congress, which met in June.³ While leaving certain questions unresolved and thus subject to interpretation in implementation, the commercial code is an important first step in China's response to the needs and interests of potential capitalist partners.

In July, 1978, in an important address made to the State Council, Hu Qiaomu, president of the Chinese Academy of Social Science, stressed the need to borrow the most advanced management practices from the West, particularly from the United States.⁴ He also emphasized the importance of the profit motive to ensure the successful development of industry and agriculture. But although these elements of the Japanese and Western economic systems are to be emulated, he maintained that capitalism itself is to be avoided.

The tenor of these remarks is interestingly reminiscent of a far earlier formula adopted by Chinese modernizers who were coming to terms with China's technological backwardness vis-à-vis the West. At that time, Chinese economists argued for a distinction between the quintessential and the merely useful. Useful technology could be borrowed from the West, although the Western ethos that provided the context for Western technological advance should be spurned and the Chinese cultural essence preserved.⁵ The logical flaw in this argument—its failure to take account of the fact that technological achievement could not be successfully uprooted from its cultural context—is equally apparent in Hu's remarks.

Another modification of the principle of self-reliance is China's turning to the United Nations for

economic assistance. In the summer of 1978, China approached the United Nations Development Program, the United Nations Educational, Scientific and Cultural Organization and the World Health Organization. A three-year \$10 million to \$15 million aid package was subsequently sought for a foreign language instructional program.⁶

THE SCOPE AND PACE OF DEVELOPMENT

The goals originally set for the four modernizations and the pace at which those goals were to be achieved have been the subject of intensive debate in Beijing for the past 18 months. The original goals of the ten year development plan through 1985—goals that called, for example, for the doubling of steel output and a four to five percent annual increase in agricultural output—were hastily conceived for rhetorical reasons before their feasibility had been carefully assessed. The identity of the debaters is not well established, but their positions are distinguishable: the argument has apparently been waged between those who favored retaining or in some instances, even increasing the original goals and those who believed that those goals were impossible to achieve and that failure would seriously undermine the regime's political legitimacy. Three documents mark the stages in this debate.

The first is Hu Qiaomu's July, 1978, address. Although he advocated "speeding up" the four modernizations, Hu suggested the need for a greater emphasis on agricultural production.⁷

The second document is the communiqué of the eleventh Central Committee, which met in its third plenary session in December, 1978. Emphasizing that "economic construction work is to be the primary activity of party and state in the current period," the Central Committee called for greater attention to the development of agriculture, which, "seriously damaged in recent years, . . . remains very weak on the whole."⁸

The publication of the documents of the second session of the fifth National People's Congress in June, 1979, marked the end of this stage of the debate. Between this meeting and the Central Committee plenum that preceded it, there was a sober reassessment of the original goals. This reassessment had important ramifications in the area of China's foreign economic interaction.

The first factor in the reassessment involved the availability of foreign exchange and foreign credits. A consistent theme of the documents was the need to decentralize economic decision-making. For the first time, county, municipal and even enterprise-level units were permitted to engage in direct negotiations with foreign buyers and suppliers. The results of their negotiations were subject to confirmation at the center, particularly if the contracts involved substantial

³*The New York Times*, July 9 and 10, 1979. *Beijing Review*, vol. 22, no. 27 (July 6, 1979).

⁴"Observe Economic Laws and Speed Up the Four Modernizations," *Peking Review*, vol. 21, nos. 45-47 (November 10, 17 and 24, 1978).

⁵This argument was brilliantly analyzed by Joseph R. Levenson in his book, *Confucian China and Its Modern Fate* (Berkeley: University of California Press, 1965), vol. 1, nos. 59-78. Its applicability to the Cultural Revolution is explored in Stuart Schram's introduction to the book he edited, *Authority, Participation and Cultural Change in China* (Cambridge: Cambridge University Press, 1973).

⁶In February of this year a World Bank delegation visited China and Chinese membership in that organization began to be discussed. A United Nations Association study cites evidence that Peking may be willing to explore ways in which it can join the World Bank and International Monetary Fund without depriving Taipei of its seat in these organizations. *Beyond Normalization: Report of the National Policy Panel to Study U.S.-China Relations* (New York: UNA-USA, July 1979).

⁷Hu, *op. cit.*, vol. 21, no. 47 (November 24, 1978), pp. 17-21.

⁸"Communiqué of the Third Plenary Session of the Eleventh Central Committee of the Communist Party of China," *Renmin Ribao* (People's Daily), December 23, 1978; *Peking Review*, vol. 21, no. 52 (December 29, 1978), p. 12.

expenditures. There is evidence to suggest that these lower-level units negotiated agreements with foreign suppliers the total of which was in excess of China's foreign exchange reserves and was higher than the amount the government was prepared to borrow abroad. Consequently, in late February, China announced that the implementation of a number of previously negotiated contracts would be delayed until priorities among them could be established.⁹

A second factor affecting the debate was the gradual realization that the projections concerning financing foreign purchases by means of the export of oil were overly optimistic. Indeed, the extent, quality and accessibility of China's oil reserves remain largely unknown. As a result, despite the signing in 1979 of several major contracts with foreign oil companies for exploration and development, there will probably be delays in marketing large quantities of Chinese oil internationally. Moreover, the rate of increase of the domestic use of oil in China is unclear, so that the amount available for export is even less certain.¹⁰

A third factor affecting the leadership was the \$6.5-billion budgetary deficit reported for 1978. The idea of deficit spending is apparently still beyond the pale.¹¹

A final factor that affected the economic debates of the winter and spring was China's costly war with Vietnam in February and March, 1979. Although no figures are available, these costs clearly had an adverse affect, at least to a degree, on China's ability to achieve the original goals of the ten year development program.

Unwillingness to incur excessive foreign debt, delay in the ability to utilize oil exports to balance extensive imports, reluctance to engage in deficit spending, and the costs of the Vietnam incursion all contributed to the resolution of the debate on economic matters in favor of caution and realism. A summary of Hua Guofeng's "Report on the Work of the Government" to the National People's Congress confirmed both the existence of the debate and the nature of its resolution. He spoke of the need for a three-year period of

"readjustment, reconstruction, consolidation and improvement" of the national economy. He apparently attributed the need for these measures to the "sabotage of Lin Biao and the gang of four": "We had not taken this into full account and some of the measures we adopted were not prudent enough."¹² This consolidation will scale down the goals of the current plan, and plans for the next 20 years.

Chinese leaders apparently understand the need for more sophisticated and thoroughgoing economic planning. They have concluded that problems of articulation among sectors of the economy, particularly when emphasis is placed on the decentralization of economic decision-making, require a greater level of expertise than the Chinese planners possess. As a result, they have sought help from abroad; Saburo Okita, chairman of the Japan Economic Research Center and an architect of Japan's postwar economic recovery, has been appointed to consult with Chinese planners.

The revised goals—more modest in scope and pace—constitute a considerably more realistic basis for the development program. Although their scaling down will result in a somewhat slower growth in China's purchases from abroad, international trade with and investment in the Chinese economy will nonetheless increase significantly as the development plan is implemented. A clearer sense of this potential can be gleaned from a closer look at China's economic interaction with specific regions in 1978-1979.

ECONOMIC RELATIONS WITH JAPAN

In many respects, Japanese firms enjoyed a significant advantage over American and European firms when the Chinese began what appeared to be an international shopping spree in mid-1978. Immediately after the Cultural Revolution, Japan's trade with China began to increase significantly. More Japanese businessmen engaged in trade negotiations in China regularly than those from any other nation. Tokyo's diplomatic recognition of Beijing in 1972 also gave Japan an edge in the China market.

The long-awaited Sino-Japanese Peace Treaty was finally concluded on August 12, 1978. Deng Xiaoping traveled to Tokyo to sign it on October 23, and a month later bilateral trade talks opened. Among the major contracts under negotiation during the year were the Nippon Steel contract mentioned above, a \$2-billion joint oil exploration and development project, a Toyota plant to assemble trucks in Beijing and an agreement involving Japanese government participation in Chinese railway construction and improvement.¹³

Each of these major contracts carried its own financing arrangements, and separate negotiations were undertaken to finance China's imports from Japan. These negotiations reached a temporary im-

⁹Among the largest and most important contracts to be thus affected was a \$2.03 billion deal with Nippon Steel for the development of the Baoshan Steel Plant outside of Shanghai. (See *The New York Times*, December 26, 1978, and February 25, 1979, and *Journal of Commerce*, May 3, 1979).

¹⁰Discussions of oil as a commodity in Chinese foreign trade are found in articles in *The Christian Science Monitor*, September 6, 1978, and in *Business Week*, October 30, 1978. For background on the question see Selig S. Harrison, *China, Oil and Asia: Conflict Ahead?* (New York: Columbia University Press, 1977).

¹¹Vice Premier Li Xiannian acknowledged the deficit in an interview in June (*The New York Times*, June 22, 1979).

¹²"Premier Hua Reports on the Work of the Government," *Renmin Ribao*, June 19, 1979; *Beijing Review*, vol. 22, no. 25 (June 22, 1979), p. 11.

¹³*The New York Times*, January 11, 1979, January 15, 1979; *Journal of Commerce*, February 19, 1979.

passe in October when the Chinese turned down a \$1-billion Japanese Export-Import Bank loan in yen and made it known to the Japanese that they preferred dollars, since yen were at that time highly appreciated and thus harder to repay. The loan was subsequently renegotiated in dollars for twice the original amount. Five months later, the two sides agreed on a second \$2-billion financing package put together by a consortium of 22 Japanese commercial banks.¹⁴ According to one estimate, by year's end the Chinese will have negotiated more than \$10 billion in loans from Japan.¹⁵ Sensitive to the possibility of criticisms from Europe and the United States that they were exploiting their advantageous position to monopolize the China market and eager to share the risk implicit in their extended position, in February Japanese officials put forward the idea of a "mini-Marshall Plan" for China, whereby the United States and European nations would cooperate with Japan in helping China to finance her imports.

In part because of their competitive edge in the China market, the Japanese were among those most seriously concerned about the delays in approving contracts announced by the Chinese in late February. By early summer, however, the Japanese appeared to have regained their confidence and to view the setback in their economic deals with China as temporary. Japan's role in China's development was once again seen as critically important.¹⁶

ELSEWHERE IN ASIA

The image of flexibility cultivated by Deng and his colleagues is most clear in Beijing's pronouncements on Taiwan. China has professed her willingness to permit the economic, social and political systems on Taiwan to continue to function unaltered if the government of the Republic of China renounces its status as a sovereign political entity. These terms, although they are seen by officials in Taipei as wholly unacceptable, are predicated on Beijing's belief that China's development can be advanced by establishing close links with an economically stable and prosperous Taiwan. In many respects, the economies are complementary—in some respects more so even than is true of Japan—and the Chinese see the advantages of economic interaction between Taiwan and the mainland provinces.

Perhaps the clearest examples of the new forms of China's economic interaction with the capitalist world are found in Hong Kong. Thus, a power plant in

Hong Kong is to be fueled with coal from China. The coal is to be paid for by the transmission into China of electric power generated by the plant. Similarly, Harpers International Ltd., a Hong Kong-based automobile distributor, has signed an agreement with China to build an assembly plant in Guangdong Province near the Hong Kong border.

By late spring, there were more than 200 joint ventures under way, involving Hong Kong-based firms in all fields.¹⁷ The location and the ethnic composition of Hong Kong were decided advantages in these joint ventures. There was even talk of establishing a tariff-free industrial zone to incorporate portions of the New Territories of Hong Kong and of Guangdong Province where these and other joint ventures could locate and expand. This, in turn, has led to speculation that Hong Kong may well have a future as an independent political entity beyond the 1997 expiration of the lease on the New Territories. The importance China assigns to Hong Kong as a locus of joint economic activity was symbolically acknowledged in late March with the visit to Beijing of Governor Sir Murray Maclehoose. It was the first time a Hong Kong governor had visited China in 30 years.

The Chinese have also showed an interest in closer economic ties with the member states of the Association of Southeast Asian Nations (ASEAN). Toward this end, Deng traveled to Thailand, Malaysia and Singapore in November, 1978. His negotiations had only a limited success, however, and the conflict in Vietnam and Cambodia hindered the further development of these ties.

ECONOMIC RELATIONS WITH EUROPE AND CANADA

The Chinese have turned toward Europe in their quest for military hardware. The United States government cannot permit American firms to sell military-related hardware to China without incurring the anger of the Soviet Union. At the same time, however, it has given its tacit approval to its European allies for such sales. During the fall of 1978, Foreign Minister Huang Hua and Vice Premiers Fang Yi and Wang Zhen each visited Europe, looking at military-related hardware in France, Italy and Britain. Although negotiations were not complete by mid-summer, 1979, it appeared likely that China would purchase jet aircraft from Britain and approximately \$200 million

(Continued on page 87)

¹⁴*Far Eastern Economic Review*, October 13, 1978; *The New York Times*, March 9, 1979.

¹⁵Feio Sekiguchi, *Report on the Chinese Economy* (Tokyo: Japan Economic Research Center, May, 1979), as summarized in *The New York Times*, May 18, 1979.

¹⁶This is the conclusion reached in Sekiguchi's report cited above.

¹⁷*Journal of Commerce*, May 19, 1979.

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"In the long run . . . China and Japan will compete for Asian commodities and Asian markets. How they manage that competition and how they handle their common fear that Soviet ambitions in the region are unfriendly will largely determine the stability and level of development in Asia at the turn of the century."

China and Asia: The Year of the China-Vietnam War

BY BRUCE D. LARKIN

Professor of Politics, University of California at Santa Cruz

IN its thirtieth year, the People's Republic of China has certainly won respect; few doubt, as they look to Asia's future, that China's role will grow. As the Chinese describe the situation in Asia, however, China is subject to a Soviet strategy of limitless ambition:

The Soviet strategy in Asia is to put down a strategic cordon around the continent, stretching from the Mediterranean, the Red Sea, the Indian Ocean and up to Haishenwei [Vladivostok] and, using the Cuba of Asia, Vietnam, as its hatchetman, seize the whole of Indochina to dominate Southeast Asia and South Asia and so edge the United States out of the continent.¹

China is capable, but she is severely constrained. Her strengths include energy resources, some 950 million people, a government of experienced and astute leaders, and a geographic position dividing Asia's north from south and reaching from the Yellow Sea to Afghanistan. Against these stand the constraints: a shortage of technology, a slender industrial base, long borders, antiquated armed forces, and an instability between population and food production.

China's four modernizations² point to her lame sectors. Modernization will ease, and then overcome, the most severe constraints on a Chinese role in Asia. The four modernizations are well chosen. But China's Asian neighbors will not stand still while China strives to modernize.

Chinese diplomacy has been active throughout Asia in 1978 and 1979. Their domestic house in order, China's leaders have moved for modernization at home and favorable conditions abroad. There are many strands to China's diplomacy and foreign economic steps in Asia during this period. But it is

dominated by a few key episodes that concern Japan, the Soviet Union and Vietnam. Improved relations with India eluded China. And China's relations with the United States have profoundly affected her place in Asia.

In early 1978, China and Japan achieved a long-term trade agreement which, in turn, created conditions for the August, 1978, announcement that Japanese and Chinese negotiators had agreed to a peace treaty, thus bringing Sino-Japanese hostility to an end. First Deputy Prime Minister Deng Xiaoping went to Tokyo in October, 1978, to sign the treaty. Since then, the principal motif in Sino-Japanese relations concerns the level, financing and pace of their economic relations.

In political affairs, the prime event of 1979 was the limited China-Vietnam Border War (February 17, 1979), in which China punished Vietnam for her seizure of Cambodia and for alleged violations of the Chinese border.

The Soviet Union stood in the wings as China and Vietnam prepared to fight. Having established intimate treaty relations with Hanoi in November, 1978, the Soviet Union could accord only symbolic support to its new ally. In fact, there is always a possibility that Moscow and Beijing may strengthen their cooperation, even with great caution and at arms length. Despite border incidents, the two maintained practical relations, including trade, but on April 3, 1979, China gave notice of her intention to tear up the friendship treaty that Mao Zedong had negotiated in Moscow in 1950.

The main thrust of Chinese diplomacy in 1979 was to create reliable conditions for trade and political relations with China's other Asian neighbors. The list of unfinished business is headed by China's distance from Indonesia, her lack of diplomatic relations with Singapore, and the still unsettled quality of her relations with India. Although it appeared that Indian relations might be brought to full normal when Indian Foreign Minister Atal Bihari Vajpayee visited China in February, 1979, that prospect was not achieved.

¹*Beijing Review*, January 19, 1979, p. 13. Until the end of 1978, this authoritative statement of the policy of the People's Republic of China was titled *Peking Review*. In keeping with the shift to use of pinyin romanization, the title was changed to the pinyin rendering of China's capital city. *Beijing Review* is the most readily available Chinese source in the United States; I have tried where possible to cite it here.

²In agriculture, industry, national defense and science and technology.

Sino-American relations are important for China's Asia policy. Although Washington retains residual support for a separate authority in Taiwan, Beijing's claim to represent all China has been strengthened. China, Japan and the United States share a worry that Moscow may move more freely in the western Pacific and, gradually, may acquire political leverage through a military presence. A *de facto* joint interest in stability and assured trade routes combine the three against Soviet adventurism. China's leaders are careful, however, to distinguish common ground from alliance. Answering *New York Times* correspondent Fox Butterfield, who asked to what extent the three states might coordinate policy, Deng replied that

there is no question of alliance. I think it is true of China, the United States and Japan that each approaches various international issues in the light of its own interests . . . while our systems are different and we have differences on many fundamental principles, there is much in common between us on matters of global strategy and on political questions.³

KOREA AND JAPAN

Six years after they entered into diplomatic relations in September, 1972, China and Japan brought their difficult negotiations on a peace treaty to a close. They signed the Treaty of Peace and Friendship between China and Japan on August 12, 1978, in Beijing, and in October, Vice Premier Deng Xiaoping journeyed to Tokyo to exchange instruments of ratification. China's determination to trade with Japan was already clear. On February 16, 1978, a long-term trade agreement was signed, providing a framework for growing trade through 1985. As long as the peace treaty remained an issue, however, it dominated political relations between the countries. China strove

to win Tokyo's acceptance of a clause denouncing hegemonism; Japan resisted, keenly aware that since 1972 "hegemony" had become a code word pointed at the Soviet Union. In the end, however, the treaty stated that

The Contracting Parties declare that neither of them should seek hegemony in the Asia-Pacific region or in any other region and that each is opposed to efforts by any other country or group of countries to establish such hegemony.⁴

Moscow had made its dislike of the hegemony clause clear. But the Tokyo leadership, which had used the phrase more innocently in 1972, could not easily retreat. Moreover, the tenor of Soviet-Japanese relations was unpromising: massive joint ventures imagined ten years earlier had largely failed to be realized, and Moscow was unyielding in its insistence that the disputed "northern islands"—a group held by the Soviets but within sight of Hokkaido—were Soviet territory. In mid-1978, Moscow shifted troops by air and sea from the Asian mainland to those islands, pointedly demonstrating her capabilities. China supported the Japanese position.⁵

China and Japan also dispute island sovereignty—the small Diao Yu (Chinese) or Senkaku (Japanese) Islands north of Taiwan and west of the Ryukyus. In April, 1978, moves by Japan's governing Liberal Democratic party to assert Japanese sovereignty led to an extraordinary picketing of the islands by some 200 Chinese fishing boats, some of them armed. China contends that Japan agreed in 1972 to postpone the issue, conserving the status quo; Japan presses her claim, asserting in effect that China's claim has been shelved. When Deng Xiaoping was in Japan in October he made it clear that the issue need not interfere with current relations, but reasserted China's claim.⁶

Japan has not proved content with the status quo. In May, 1979, she built a heliport in the islands, prompting an official Chinese protest. Thus China's position is reserved, but no action as dramatic as that of April, 1978, was taken.⁷

Without the least hint of an alliance or any surrender of Japanese choice, China seeks a working political understanding with Tokyo and access to Japanese technology and skill. Deng's visits (October, 1978, and February, 1979) and a 12-day stay (in April, 1979) by Zhou En-lai's widow, Deng Yingchao, who is also a member of the Politburo, emphasized China's courting. At the same time, high hopes for Japanese exports to China struck a chill wind at the end of February, 1979: China's reassessment of import priorities prompted a freeze on projects. It now seems clear that projects that are well advanced will go ahead, but with delay, taking care that projects make sense and can be paid for. In May, 1979, a Japanese package of \$10 billion in credits was reported near completion, the funds to be used to pay

³*Beijing Review*, January 12, 1979, p. 18, reporting an interview given by Deng Xiaoping to 27 American journalists in Beijing on January 5, 1979.

⁴*Peking Review*, August 18, 1978, pp. 7-8.

⁵For example, see "Japanese Islands Are Not Soviet Stones," in *Beijing Review*, January 12, 1979, pp. 36-37.

⁶*Peking Review*, November 3, 1978. Deng said to a press conference in Tokyo: "Our two sides agreed not to touch upon this question when diplomatic relations were normalized between China and Japan. This time when we were negotiating the Treaty of Peace and Friendship, the two sides again agreed not to touch it. . . . It is true that the two sides maintain different views on this question. . . . It doesn't matter if this question is shelved for some time, say, ten years. Our generation is not wise enough to find common language on this question. Our next generation will certainly be wiser. They will surely find a solution acceptable to all."

⁷*Beijing Review*, June 8, 1979. "... the two sides had agreed to settle the question in future." The protesting Chinese official "pointed out that as the Japanese side had acted contrary to the above-mentioned understanding between the two sides, the Chinese side could not but express regret at the Japanese action."

for future Japanese sales to China. Japan can still expect an important role in China's four modernizations.⁸

Recent Chinese comment on Korea stressed North Korea's call for "independent and peaceful reunification." The politically salient term is "peaceful." And when the South proposed resuming talks with the North, Beijing termed the initiative "encouraging." Between China and the Soviet Union, geographically and politically, North Korea enjoys little room to maneuver. She was largely silent on the China-Vietnam War, but welcomed Deng Yingchao to Korea in May, 1979, shortly after she extended an invitation to the former Cambodian leader, Norodom Sihanouk, who strongly opposed Vietnam at the United Nations.

INDOCHINA AND THE VIETNAM WAR

China's foreign policy year between mid-1978 and mid-1979 reflects her relations with Vietnam. The issues that were to climax in China's February 17, 1979, attack became public in May, 1978. From early April until mid-May, China charged, more than 50,000 overseas Chinese were driven from Vietnam into China. The expulsions, begun in early 1977, continued. To this issue there was added growing warfare between Vietnam and Kampuchea (Cambodia), where the Pol Pot regime favored Chinese aid to offset Vietnamese ambition. By late June, China was reporting the Vietnam-Kampuchea dispute under the title "Viet Nam Must Stop Its Aggression." On June 29, 1978, Vietnam entered the Moscow-centered Council for Mutual Economic Assistance (Comecon) and four days later China recalled her experts in Vietnam and ended her aid program there. Through the latter months of 1978, both issues intensified. China charged continuing Vietnamese provocation at the border. By August, in a review urging prepared-

ness for war, China's Minister of National Defense cited Vietnam's actions as one more instance of Soviet "offensives."⁹ In October, China declared that Vietnam "must shoulder all responsibility for the consequences" of encroachment upon Chinese territorial integrity and sovereignty.¹⁰ There were further warnings. The Chinese news agency Xinhua said in November, "Since mid-September the situation has gone from bad to worse." *Renmin Ribao* editorialized on Christmas Day that "there is a limit to the Chinese people's forbearance and restraint." By the time of Deng Xiaoping's visit to Washington in late January, 1979, China's intentions were becoming clear. In private meetings on Capitol Hill, Deng tested and prepared the ground. The warnings were numerous and explicit.

China's moves were sensitive to the normalization of Sino-American relations. At the same time, Deng was aware, when he talked with President Jimmy Carter, that only three months earlier Moscow and Hanoi had signed a Treaty of Friendship and Cooperation that China described as a military alliance. Any Chinese move against Vietnam would force China to consider a possible response from Moscow, although along China's vulnerable northeast border the cold weather would immobilize Soviet forces.

China moved against Vietnam on February 17. On March 5 she announced the start of a troop withdrawal and declared that withdrawal completed on March 16. Although China punished Vietnam severely in the combat zone itself, reaching some 10 miles into Vietnam, her movement was in no sense swift, sure, or unopposed. Vietnam's support for a client regime in Cambodia had not been brought to an end, and China suffered heavy casualties. But Beijing had made the point that serious negotiations would begin with China in possession of those points along the border which she had claimed.

ATTEMPTED JUSTIFICATION

In the aftermath of the war, China recited long-standing grievances against Vietnam. Vietnam had made anti-China statements. She had laid claim to China's Xisha and Nansha Islands in the South China Sea and claimed jurisdiction in the Beibu Gulf. The Vietnamese campaign against persons of Chinese descent in Vietnam, which led to their expulsion across the common border or their flight by sea was a cruel and deliberate policy. China's aid to Vietnam during and after the Vietnam War had been forgotten.

Thus China depicted Vietnam as an agent of Soviet hegemonism and a "regional hegemonist." Soviet naval moves to aid Vietnam during the war and the subsequent arrival of Soviet volunteers were noted. China coupled her actions with calls for negotiations; and in early April, 1979, talks were begun. Although they did not move quickly beyond an exchange of

⁸The \$10 billion credit is reported to be in three parts: a \$2 billion yen-denominated loan by the Export-Import Bank of Japan at 6.25 percent for 15 years; \$6 billion in short-term credit at a rate 0.25 percent above the Euro-market rate; and \$2 billion at 0.50 percent above the London Inter-Bank Offered Rate. The final agreements remain to be signed. Having obtained credits from France, England and Canada, China will be better placed to maintain competition among prospective suppliers.

⁹Xu Xiangjian, "Heighten our Vigilance and Get Prepared to Fight a War," original in *Hongqi*, 1978, in *Peking Review*, August 1, 1978, pp. 5-11. "In Southeast Asia [the Soviet Union] has instigated and supported the Vietnamese authorities, which are pursuing a policy of local hegemonism, to make provocations, carry out armed invasion against Kampuchea and serve as a Cuba in the East. It is precisely because of the Soviet Union's rabid offensives that the danger of another world war is conspicuously growing."

¹⁰Protest of the Chinese Ministry of Foreign Affairs delivered to Vietnam on October 26, 1978, in *Peking Review*, November 3, 1978, p. 26.

prisoners, the talks provided a forum for China.¹¹ China gambled that she could punish Vietnam without incurring the suspicion and distrust of other Asian states. Restraint in 1978, the litany of provocations, Vietnam's evident first move into Kampuchea, the geographic limitation of the February strike and the Chinese withdrawal were calculated to persuade the world that this was a legitimate use of force.¹²

In mid-1979, when remnant Pol Pot forces in Kampuchea continued to claim active resistance to the Vietnam-supported forces seeking to crush them, Beijing still treated the Pol Pot group as Kampuchea's legitimate government.

China also shares a border with Laos which, in the period since 1975, had reached a political understanding with Vietnam. On March 6, 1979, Laos issued a statement charging that China was massing troops on her border, and a day later Laos cut off Chinese aid activities in Laos. China denied the charges flatly and "counselled" the Lao government to refrain from further hostile acts.¹³

ASEAN

The five countries of the Association of South East Asian Nations (ASEAN)—Malaysia, Thailand, Indonesia, Singapore and the Philippines—are China's economic partners. And they share much of China's fear that the Soviet Union may establish a presence in Southeast Asia. China's sheer size, however, dictates ASEAN wariness toward Beijing's intentions, too.¹⁴

¹¹China's version of past events, her complaints, her characterizations of the Vietnamese position and her proposals for the conduct of negotiations are set out in speeches by Chinese Vice-Minister of Foreign Affairs Han Nianlong to the joint talks. See *Beijing Review*, May 4, 1979, pp. 10-17; May 11, 1979, pp. 19-21 and May 25, 1979, pp. 14-26.

¹²China's terming the February 17 entry a "counterattack" is plausible only in an extended sense, but it defines the event in such a way that China's commitment to use force abroad only in defense is conserved.

¹³In an official memorandum given to the Laotian ambassador in Beijing, China said that "The Chinese Government solemnly declares that the above-mentioned charges by the Lao Government are fantastic fabrications concocted out of thin air." *Beijing Review*, March 16, 1979, p. 22.

¹⁴Thus Philippine Foreign Minister Carlos Romulo stated that ASEAN should "exercise greater care against Soviet activities, penetration and infiltration of this region." But he also urged leaning neither to Moscow nor to Beijing. In keeping the Soviet Union from the region, ASEAN could stave off future moves by China and Japan to obtain fishing, shipping and naval facilities in Southeast Asia. *Agence France Presse*, January 2, 1979, in FBIS-APA-79-2, p. 1.

¹⁵*Peking Review*, November 17, 1978, reporting a banquet on November 9, 1978.

¹⁶*Beijing Review*, April 13, 1979, reporting an April 4, 1979, greeting.

¹⁷For example, China comments on Moscow's urging ASEAN "to include other countries with different social systems such as Vietnam, Laos and Cambodia (Kampuchea)." *Peking Review*, August 4, 1978, pp. 16-17.

Knowing that China's difficulties with Vietnam would only deepen, Deng Xiaoping found time to visit Thailand, Malaysia and Singapore in November, 1978. The Chinese people, he told Malaysia's Prime Minister Datuk Hussein,

support the ASEAN countries in their just struggle in defense of their independence and sovereignty against outside control and interference.

We support ASEAN's efforts to strengthen regional economic cooperation and protect . . . national resources and economic rights and interests.¹⁵

China has also cultivated her relations with the Philippines, Thailand and Malaysia. Indonesia and Singapore are among the states with which China does not have diplomatic relations, but this has not prevented high-level contacts with Singapore. Not only did Deng Xiaoping include Singapore in his November itinerary, but the Singapore Deputy Prime Minister visited China in April. On the occasion of that visit Premier Hua Guofeng said, "Despite the absence of diplomatic relations between our two countries, we have been getting along on very good terms."¹⁶

The central issue for China is how Southeast Asia will be organized politically. ASEAN and its proposal for a zone of peace, freedom and neutrality in Southeast Asia fit China's needs. Soviet proposals to bring the Indochinese states into ASEAN smell of Moscow's "Asian collective security scheme" and China regards the suggestion as an unfriendly, encircling move.¹⁷ China gives full play to the Soviet use of naval facilities at Vietnam's Cam Ranh Bay and the movement of the warship *Minsk* around Africa and through the Indian Ocean to Asia.

SOUTH ASIA

In the longer term, China's relations with South Asia—India, Pakistan, Bangladesh and the Himalayan states—must take on more importance. Combined, these states have one-fifth of the world's people. Since the 1962 Sino-Indian border war, the legacy of that conflict, including China's wish to offset India and China's resultant military aid to Pakistan, has been the overriding fact. Since 1975, however, China has sought regular and respectful hearings throughout South Asia. Although the February, 1979, visit of Indian Foreign Minister Vajpayee was cut a day short to protest the attack on Vietnam, he claimed that the boundary issue was "at last unfrozen," and reported

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"To use water power for electricity generation as much as possible makes eminent sense in China: every large new reservoir built primarily for power generation still stores the water for flood prevention or for irrigation and serves as a breeding ground for fish."

China's Water Resources

BY VACLAV SMIL

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The wise man delights in water, the good man delights in mountains. For the wise move, but the good stay still. The wise are happy; but the good, secure.

*Confucius
Lun Yü VI, 21.*

Art mirrors, succinctly and admirably, the human perception of the environment. When European painters look at a landscape, various elements take over—light from the high clouds in Jacob van Ruisdael, majestic trees in John Constable, shimmering of colors in Claude Monet. In contrast, Chinese painters have always seen their landscapes as *shan shui*—mountain-water—the term containing all the tension and harmony of *yang* and *yin*, evoking whole sets of analogies and lending to landscape painting "a worshipful attitude, making it a ritual act of reverence in praise of the harmony of Heaven and Earth."¹

Water, the first of the ancient five elements, the Black Tortoise of the Five Regions of the Heavens, has thus always had a pivotal place in Chinese culture—and in everyday Chinese life. One does not have to agree with Karl Wittfogel's historical thesis about the emergence and institutionalization of hydraulic despotism in China² to appreciate the close relationship between water and the country's civilization, a link both beneficial and destructive.

The valleys of the major rivers where the ancient cultures arose (Figure 1), large lowland lakes and the densely populated plains of China depend on the rainfall whose most notable feature is its irregularity caused predominantly by abnormal monsoonal flows.³ Mean annual rainfall is greatest in the south-

east and decreases gradually toward the northwest: coastal Fujian has on the average more than 2,000 millimeters of rain a year, a 1,000 millimeter isohyet runs approximately from the mouth of the Yangzi to the central Sichuan, Beijing has just over 600 millimeters and Ürümqi in Xinjiang has less than 300 millimeters. Everywhere south of the Yangzi, there are at least 100 days with precipitation a year, but in the Huang He basin there are only 50 days of rain.

In the south and in the north, most of the rainfall is associated with the moist monsoonal southeasterlies; as much as 90 percent of annual precipitation may fall between May and September. But when these arrive early and move the intensive rain belt northward faster than usual, the normally wet Jiangnan (area south of the Yangzi) may suffer a prolonged drought; in contrast, when a cold continental air mass blocks the southeast monsoon from penetrating farther inland, the Chang Jiang valley may be flooded while parts of the north may remain rainless for the whole summer. The recurring cycles of floods and droughts thus affect the entire densely populated eastern half of China, and especially the basins of the Hai, Huang and Huai.

In more than two-and-one-half millenia of recorded affairs, the Huang He broke the dikes in its lower reaches twice every three years and had a major change of course every century. The Huai He basin in the heart of densely populated China suffered more than 900 droughts and 900 floods between 246 B.C. and 1948. The Hai He basin had 387 disastrous floods and 407 drought years between 1368 and 1948; Tianjin was flooded more than 70 times, and frequent waterlogging gradually turned one-third of the cultivable area in Hebei province into alkaline wasteland. Flood danger has been greatly reduced in China's major river basins by water control projects. But long-lasting droughts are more difficult to alleviate, and in the 1970's they brought serious economic losses.

The drought of 1977-1978 ranks with the worst droughts in modern Chinese history.⁴ In 1977, at least 16 of China's 27 provinces and regions were seriously affected. Spring and summer dry spells were reported from Heilongjiang in the northeast all across the eastern populated half of the country to Guangdong

¹Mai-mai Sze, *The Way of Chinese Painting* (New York: Random House, 1959), p. 100.

²Karl A. Wittfogel, *Oriental Despotism* (New Haven: Yale University Press, 1957).

³For comprehensive review of China's climate see I.E.M. Watts, "Climates of China and Korea" in H. Arakawa, ed., *Climates of Northern and Eastern Asia* (Amsterdam: Elsevier Publishing, 1969), pp. 1-117.

⁴The following account of the 1977-1978 drought as well as the subsequent reviews of mass projects and advances in irrigation have been pieced together from the Chinese national and provincial broadcasts, news agency releases and newspaper items too numerous to be listed separately in this paper; consequently, only some key references are given.

FIGURE 1

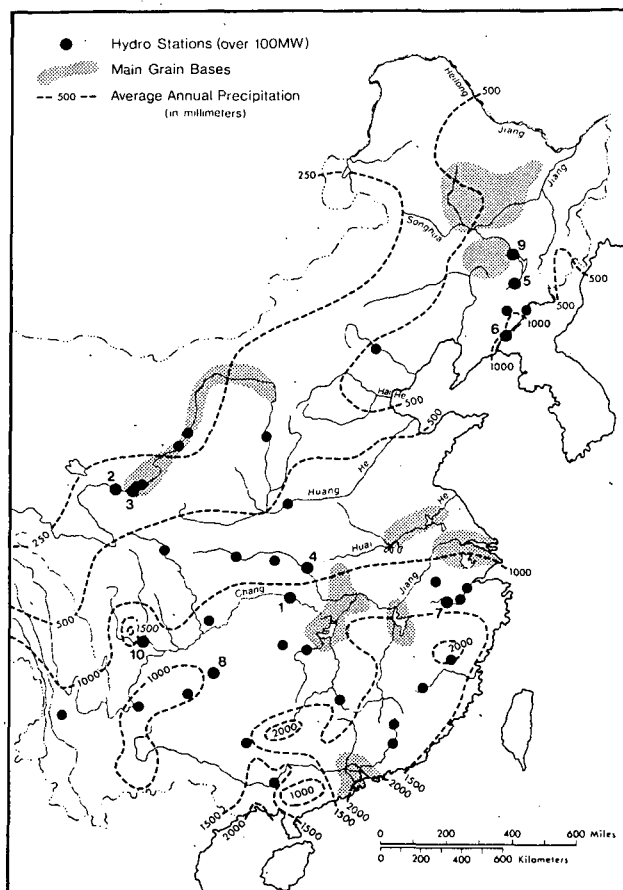


Figure 1. Major rivers, precipitation, grain bases and hydro stations in China. The numbered hydro stations over 500 MW installed capacity are: 1. Gezhouba 2,700 MW (under construction); 2. Longyangxia 1,600 MW (under construction); 3. Liujiaxia 1,225 MW; 4. Danjiangkou 900 MW; 5. Baishan 900 MW (under construction); 6. Supung 700 MW; 7. Xin'anjiang 653 MW; 8. Wujiangdu 630 MW (under construction); 9. Dafengman 590 MW; 10. Gongzui 750 MW.

and Guangxi in the south; Shandong, Henan and Anhui suffered most, with some counties experiencing seven rainless months. Millions of peasants and city inhabitants tried to relieve the disaster by building thousands of small reservoirs to capture the dwindling stream flows, digging new canals, sinking new and deeper wells, manufacturing and installing electrical and diesel pumps and pipes and using any available equipment—vehicles, tractors, animal and man-drawn carts—to bring water to withering crops. Where the transportation was insufficient or un-

⁵New China News Agency (NCNA) in Chinese, November 2, 1978.

⁶NCNA in English, October 30, 1978.

⁷For many fascinating details on China's ancient hydraulic engineering see Joseph Needham, *Science and Civilization in China*, vol. 4, no. 2, "Mechanical Engineering," and vol. 4, no. 3, "Civil Engineering and Nautics" (Cambridge: Cambridge University Press, 1965 and 1971).

available, hundreds of thousands of Chinese carried water buckets hung on shoulder beams; even washing basins were used to nurse the sprouting crops.

Serious as it was, the 1977 drought was only a harbinger of calamities to come in 1978. Early dry spells along the middle and lower course of the Huang He and in the Hai He and Huai He basins soon extended northeast and southwest, and by late spring the drought covered the country from subtropical Hainan island to the Korean border. For China, the drought's duration, extent and gravity surpassed the severe droughts of 1966, 1959 and 1934; in many provinces it was the most serious natural disaster in decades. For Hubei, Jiangxi, Henan, Shanxi and Shaanxi it was the worst recorded drought in 50 to 70 years, for some areas of Jiangsu, in 100 years; Anhui, the hardest hit province, had suffered the last comparable calamity 122 years ago.⁵

Between January and September, 1978, precipitation in most drought-affected areas was 30-50 percent below normal, and in usually rainy Jiangsu it was just 300-400 millimeters, or 60-70 percent less than the average. Rainless spells lasted up to seven months in some counties in Anhui, Hubei and Jiangsu, accompanied by dry, hot southwesterly wind blowing consecutively for weeks and bringing the June-September highs to 35-40° C on many days.⁶ Water volume in the middle and lower course of the Chang Jiang dropped by one-third in comparison with recent years; the flood-prone Huai He basin had record low flows. The absence of precipitation during the rainy season combined with high evaporation reduced many large lakes and reservoirs to shallow, muddy pools—Chao Hu in Anhui was just knee-deep—and completely dried out thousands of smaller rivers, ponds and irrigation canals. Drinking water was precious, and by early October the land in Anhui was covered with a hard crust difficult even for tractors to plough. The first heavy and extensive rain fell only in late October.

The 1977-1978 drought accounted for a large part of the increase in China's grain imports—to about seven million metric tons in 1977 and ten million metric tons in 1978—but the 1978 grain harvest of 295 million metric tons was nearly 3.5 percent above the 1975-1977 level. The country could not have survived such a serious drought relatively well without a vast system of water control projects that had been established during the past 20 years by mass labor.

MASS PROJECTS

China has, of course, an unparalleled tradition of constructing intricate waterworks on a grand scale.⁷ The rivers of the North China Plain were first regulated four millennia ago. The waters of the Huang He have been used for irrigation for nearly 2,500 years; the famous Grand Canal originated in the same period. By the time of the Sui Dynasty at the begin-

ning of the 7th century, the imperial capital in Henan, Luoyang, was linked to Tianjin in Hebei and Jiangjiang in Jiangsu by canals more than 1,000 kilometers long; by the end of the 13th century (Yuan Dynasty) it was possible to sail directly from Beijing to Hangzhou 1,782 kilometers away.

Yet the most admirable example of integrated ancient hydroengineering is the Dujiang Yan irrigation system in the Chengdu Plain of the western Sichuan, where the recurrent flooding of the swift Min Jiang was controlled after 230 B.C. by ingenious designs worked out by Li Ping and his son, Li Erhlang, and by the massed labor of generations of peasants. A rock-walled river bed was cut at the river's entrance to the plain; the stream was subdivided by building successive arrowheads mid-stream; and the water was diverted into 520 branch canals totaling 1,165 kilometers, with the flow further regulated by some 2,000 dikes and dams. Dredging and dike repairs during low-water seasons have kept the system working for over two millennia, and the Dujiang Yan now irrigates some 530,000 hectares of fertile land.

The traditional method of building the waterworks was continued and greatly expanded after the establishment of the People's Republic. Masses of peasants converge on the construction sites especially during the off-season winter months and toil, without the help of any machinery, with shovels, picks, chisels, steel rods, hammers, weigh-beams, straw or bamboo baskets, wheelbarrows, pullcarts and locally made explosives. China's peasants built virtually all the nearly 90,000 small water reservoirs and most of the more than 2,000 large and medium storages between 1949 and 1978. They also dug nearly 100 large drainage canals, strengthened 130,000 kilometers of protective dikes along major rivers, and sank more than two million pump wells in dry North China.⁸

The Communist government also initiated work on comprehensive water control in three major river basins—Huai He, Hai He and Huang He. In the Huai He basin, large reservoirs were built in the mountains of Anhui and more than 5,000 small storages were constructed between 1951 and 1976. Dikes were built along the rivers and the low-lying Hongze and Gaoyou lakes and along the sea coast in

⁸Beijing broadcast for Southeast Asia, November 16, 1977.

⁹NCNA in English, May 15, 1976.

¹⁰Ho Chin, *Harm into Benefit: Taming the Haiho River* (Beijing: Foreign Languages Press, 1975).

¹¹Charles Greer, *Water Management in the Yellow River Basin of China* (Austin: University of Texas Press, 1979) gives a fine, comprehensive account of the effort. See also Vaclav Smil, "Controlling the Yellow River," *Geographical Review*, vol. 69, no. 3 (July, 1979).

¹²For an intensely Maoist account of the Red Flag Canal history see Lin Min, *Red Flag Canal* (Beijing: Foreign Languages Press, 1974).

Jiangsu, and several new outlets were dug to speed up the outflow of flood waters.⁹

Mass work in the Hai He basin started in 1963.¹⁰ Up to a million peasants worked every winter and spring, and in ten years they completed 80 large and 1,500 small reservoirs, 34 trunk waterways with a total length of 3,700 kilometers, 4,300 kilometers of flood-prevention dikes and 60,000 bridges, waterlocks and culverts. New outlets to the Bo Hai increased the discharging capacity fivefold over the early 1960's; Tianjin gained nearly complete safety from floods; and the irrigated farmland was expanded while large areas of saline and alkaline land were reduced.

In comparison with these relative successes, control of the silty Huang He proved to be much more difficult.¹¹ Chairman Mao Zedong's ascent of the Mangshan hill near Zhengzhou "with firm and steady strides" and his "great call" from the top of the mountain—"Work on the Yellow River must be done well"—became a choice selection for Maoist hagiographers, but the grand control plan published in 1955 was unrealistically ambitious. The river was to be controlled permanently by the construction of 46 large dams, supplemented by tens of thousands of smaller structures on the tributaries, but in 1978 only eight of the concrete gravity dams had been completed, and the key dam, Sanmenxia, needed lengthy and costly reconstruction to increase its silt-discharging capacity. The existing projects have undoubtedly reduced flood and ice-flow dangers, but the construction of dikes in Henan and Shandong, where the river flows above the surrounding countryside, must continue; the swift erosion of the loess region remains largely uncontrolled.

Hundreds of other complex water control schemes have been built by mass labor in all provinces and regions of China, including Xizang and Xinjiang. Among the most famous is a show project completed in 1966 in Mao's birthplace, Shaoshan, in Hunan. About 2,500 kilometers of branch canals and irrigation ditches lead off the main 240-kilometer conduit; the system is fed from over 100 reservoirs and 50,000 ponds, and more than 400 electrically powered pumping stations irrigate in excess of 65,000 hectares. But undoubtedly the obligatory pilgrimage for countless guided tours has been Lin county in Henan, where thousands of peasants spent a decade (1960-1969) cutting the spectacular Red Flag Canal into the steep slopes of the Taihang Shan.¹² The total length of the main canal, its three principal branches and numerous ditches is 1,500 kilometers; 16.4 million cubic meters of stone and earth were manually cut and moved to bring the water to some 40,000 hectares of previously very dry farmland.

Between 1971 and 1976, every winter and spring at least 100 million people took part in building and repairing water control projects and leveling and

terracing new farmland.¹³ Perhaps the best recent illustration of the magnitude of the tasks and the concentration of labor needed to undertake them is the digging of a new river in Shanghai municipality. The new Dingpu river, linking Dingshan Hu and the Huangpu Jiang, is 46 kilometers long and 50 to 60 meters wide; it was dug by the hand labor of 140,000 people within a month in January and February, 1977.¹⁴ The primary goal of this project was to provide adequate drainage for the low-lying farmland, a frequent need in China where, nationwide, some 22 million hectares of cultivated land are vulnerable to waterlogging. The Chinese claim that the drainage problem is now controlled on about 17 million hectares;¹⁵ thus irrigation, rather than drainage, remains the key task of farm water management.

IRRIGATION

In absolute quantitative terms, the extension of farmland irrigation in the People's Republic of China is impressive. In 1949, no more than 16 million hectares of cropland benefited from some kind of irrigation; the 1978 figure was just over 50 million hectares.¹⁶ Most irrigation water is drawn from rivers, lakes and reservoirs, but pump wells have been increasing at a fast rate: from less than 100,000 in the early 1950's to 1.2 million in 1973 and to just over two million in 1978. China's irrigation and drainage equipment yielded one million horsepower in 1949, about nine million in 1965 and 50 million in 1978.

The quality of China's irrigation schemes is, however, deficient. The total capacity of more than 6,500 large irrigation projects should be nearly 29 million hectares, but in 1978 the effectively covered area was only 20.5 million hectares. Leaks and seepages from irrigation canals have been officially termed "quite serious." On average, only 40 to 50 percent of the water is used and, in many localities, 70-80 percent of the water is wasted. An average pump well can irrigate only 33 mu* of cropland while proper scheduling of its operation, repair of irrigation canals and ground leveling to reduce the run-off could triple this value.¹⁷

About two-fifths of the total irrigated area is in the north (Henan, Hebei, Shandong and Shanxi) and the

*1 mu equals .1518 acres.

¹³Ching-chi Tao-pao, April 14, 1976, p.20.

¹⁴NCNA in Chinese, February 22, 1977.

¹⁵NCNA in English, October 31, 1974.

¹⁶Statistics of irrigated areas by regions and provinces for 1949-1976 are available in U.S. Department of Agriculture, *People's Republic of China Agricultural Situation: Review of 1976 and Outlook for 1977* (Washington, D.C.: USDA, 1977), pp. 14-15.

¹⁷NCNA in Chinese, July 27, 1978.

¹⁸D. Perkins, "A Conference on Agriculture," *The China Quarterly*, no. 67 (September, 1976), p. 606.

¹⁹Kao Hsia, "Yangtze Waters Diverted to North China," *Peking Review*, vol. 21, no. 38 (September 22, 1978), pp. 6-9.

northwest (Nei Monggol, Shaanxi, Gansu, Ningxia, Xinjiang), where the two main sources of water are tubewells and the Huang He and its tributaries. Most of the tubewells, concentrated on the North China Plain, have an average depth of 30-40 meters, and their typical flow is only between 0.04 and 0.05 cubic meters per second.¹⁸ About half of them are driven by electricity, the rest by fossil-fueled engines. In light of the rapid introduction of these wells and the recent dry summers, it is hardly surprising that the ground water level in parts of the North China Plain is dropping, and it is impossible to predict whether the future rates of ground water replacement in Henan, Shandong or Anhui will be adequate.

Irrigation with the Huang He waters has made great progress since the late 1960's, with the gradual completion of several large reservoirs on the river's middle course. In Gansu, more than 1,000 electric pumping stations water nearly 70,000 hectares, and the total is to be doubled in the near future. Gansu province has also China's largest water-lifting stations: one raises the Huang He waters 440 meters in 12 stages and a new 12 stage project in Gaolan county lifts water 550 meters to irrigate 13,000 hectares.

On the Loess Plateau and downstream from it, the high silt content of irrigation water necessitates the use of sedimentation ponds; movable pumps must be used to cope with rapidly fluctuating stream levels. But there are plans to expand irrigation even under these difficult conditions as well as in the desert and semi-desert areas of Ningxia and Nei Monggol; the most ambitious project plans to develop the Ordos bend of the Huang He into a 650,000 hectare irrigated region free of alkaline and saline problems, in order to make Nei Monggol one of China's leading grain producing areas.

Irrigation throughout the North China Plain will be greatly helped by the South-to-North Water Diversion, one of the major projects in the country's long-range economic development plan.¹⁹ In the 1950's, the contrast between the abundant water flow in the Chang Jiang and the recurring water shortages in the north led to extensive surveys of possible diversion routes and the identification of some 15 traverses. The routes that would channel the water from the Jinsha Jiang (the upper course of the Chang Jiang) across the high mountain ranges in Sichuan to the upper Huang He in Qinghai, Gansu and Ningxia were obviously unrealistic, and even the middle route, which would divert the Chang Jiang from the west of Yichang in Hubei to Beijing via Henan and Hebei and could exploit gravity flow along most of its course, would require massive excavation of a new channel and many storage reservoirs.

The only feasible (though very demanding) plan was the east route, starting near Yangzhou and transferring the Chang Jiang waters via the ancient

Grand Canal through Jiangsu, Anhui, Shandong and Hebei to the vicinity of Tianjin. China's economy was too weak to undertake this unprecedented project when it was first formulated, but a recent detailed survey showed that the country's growing technological capabilities and a stronger economic base make the largest of China's hydroengineering tasks feasible. When completed in the mid-1980's, the diversion will draw 30 billion cubic meters a year, over half the Huang He's annual flow but less than one-thirtieth of the Chang Jiang's volume at Yangzhou. Thirty large pumping stations with a total capacity of 1,000 megawatts will lift the water 40 meters in 15 stages between Yangzhou and the Huang He, north of which the water will flow by force of gravity to Bo Hai.

The main canal will be 1,150 kilometers long, and it will require excavating a new 250-kilometer section and dredging, widening and some straightening of the Grand Canal along its whole course. The diversion will irrigate some 4 million hectares of drought-prone farmland and will improve flood drainage on 18,000 square kilometers and provide water for increasing urban and industrial needs. Ships of up to 2,000 metric tons will be able to carry about 50 million metric tons of cargo annually along the trunk canal. This project and countless other irrigation schemes could not be accomplished without a steady, substantial supply of electricity; in China a larger proportion of power is generated in hydro stations than in any other large energy-producing nation.

POWER GENERATION

To use water power for electricity generation as much as possible makes eminent sense in China: every large new reservoir built primarily for power generation still stores the water for flood prevention or for irrigation and serves as a breeding ground for fish. And the abundance of China's water power resources is unequalled.²⁰ The aggregate theoretical generation capacity of China's 1,600 large rivers (i.e. those with a basin exceeding 1,000 square kilometers) has been estimated by the Chinese at 580 gigawatts, and at least 300 gigawatts of this total are at the sites suitable for large-scale industrial development. At an average rate of flow this would enable China to generate 1.32 trillion kilowatt-hours per year, about 20 percent more than the Soviet potential and nearly double the United States capability.

²⁰A comprehensive review of China's post-1949 hydroenergy development can be found in Vaclav Smil, *China's Energy* (New York: Praeger Publishers, 1976), pp. 67-97.

²¹Xiang Rong, "Building a Dam on the Chanjiang River," *Peking Review*, vol. 22, no. 12 (March 23, 1979), pp. 17-18.

²²Vaclav Smil, "China Reveals Long-term Energy Plans," *Energy International*, vol. 15, no. 8 (August, 1978), p. 25.

China also has the world's two largest potential hydrogeneration sites. The first is in an isolated part of the southeastern Xizang, in the area of a sharp bend of the Yarlung Zangbo Jiang, where a 27-gigawatt station could be built by diverting the waters through a 16-kilometer-long tunnel and building a series of dams. Because of the remoteness of the site and the tremendous physical obstacles to bringing the power even to the closest large markets in the east, the project has no chance for an early realization. However, the Chinese are seriously considering the construction of another 27-gigawatt hydro station in the San Xia (Three Gorges) section of the Chang Jiang. With a dam about 250 meters tall, the station at the Xiling Gorge would create a huge reservoir of nearly 200 billion cubic meters. The Chinese have already indicated that Western technological help will be sought for this unprecedented project.

Currently, the largest Chinese hydro station under construction is Gezhouba on the Chang Jiang near Yichang (Hubei), about 40 kilometers east of the proposed Xiling site.²¹ This completely Chinese project will have a 2,561-meter long main gravity concrete dam, two generating stations with a total capacity of 2.7 gigawatts, three locks for ships up to 10,000 metric tons and a maximum flood discharge capability of 110,000 cubic meters per second. Chinese engineers consider it a most valuable learning experience for the gigantic San Xia scheme. Other large projects under construction are Longyang Xia on the Huang He in Qinghai, with 1.6 gigawatts, Baishan station on the Songhua (900 megawatts), and the Wujiangdu station in Guizhou (630 megawatts).

Construction of these large projects—and hundreds of medium and thousands of small ones—is a facet of the accelerated development of China's water resources for power generation.²² The 38 percent of China's installed power capacity already produced in hydro stations is only a small fraction of the developable potential. The Chinese planners have decided that the drawbacks of longer construction times and higher per kilowatt costs, in comparison with fossil-fueled stations, are outweighed by cheap operating costs and lowered dependence on non-renewable energy resources.

And although the current modernization policies stress the development of large projects, the Chinese will also continue to build thousands of small rural

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China's modernization program is designed "to make China a major economic power by the end of the century." Nonetheless, notes this economist, "Despite the magnitude of China's resources, they still fall far short of what is needed to finance the planned projects."

Industrial Modernization in China

By S. H. CHOU

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CHINA'S economic policies have undergone a great change since Mao Zedong's death in 1976. To stimulate the economy, which had been sluggish in the 1960's and the early 1970's, Beijing (Peking) launched a ten-year modernization program, from 1976 through 1985. The overriding goal of this ambitious program is to make China a major economic power by the end of the century.

As originally conceived, the program calls for the completion or construction of 120 major projects, including 10 iron and steel complexes, 8 coal mines, 9 oil and gas fields, 30 electric power stations, 6 new trunk railways, and 5 key harbors. Because of financial constraints, many of these projects have been scaled down or temporarily suspended. Even with these modifications, the completion of the modernization program will undoubtedly have a significant impact on the Chinese economy in the coming decades.

China's modernization program may be evaluated by analyzing five key industries—steel, coal, petroleum, hydropower and railway transportation.

Before 1950, China's peak steel production was 1.5 million metric tons. Anshan (in the northeast) and Wuhan (in Central China) were the only major steel producing centers on the Chinese mainland. After 1950, production rose steadily, from 158,000 tons in 1949 to 18.7 million tons (including about 6 million tons from small and medium plants) in 1960. In the following decade, political turmoil and the diversion of capital investment to agriculture and petroleum production resulted in a sharp reduction in steel production, which dropped to 12.2 million tons (including 500,000 tons from small and medium size plants) in 1965. Not until 1970 did steel production regain its 1960 level. During 1971-1977, the annual output fluctuated within the range of 20 million-25 million tons (including 2 million to 3 million tons from small and medium plants). Steel remained in the

doldrums until 1978, when production surged to a new peak of 32 million tons, an increase of 8 million tons over the previous year.

According to the original plan, two "greenfield" steel complexes were to be built in Chidong (near Tangshan) and Baoshan (near Shanghai) with a projected capacity of 10 million and 6 million-7 million tons, respectively. In addition, the capacities of existing plants were to be expanded to about 40 million tons. Recent reports indicate that the Chidong project has been cancelled.¹ The Baoshan complex, already under construction, has also been delayed. In the meantime, the planned renovations at Anshan, Wuhan and other existing steel centers appear to be unaffected. It is apparent that China prefers to renovate existing plants rather than build "greenfield" complexes, because of cost considerations.² As a result of these plan modifications, China's annual steel production will probably reach a level of 50 million tons by 1985 (or an annual growth rate of about 7 percent) rather than 60 million tons (or an annual expansion of about 11 percent), as was originally projected.³

Because of the lag in domestic steel production, in recent years China has relied increasingly on imports to cover the shortfall. The volume of annual steel imports rose to about 3.7 million tons in the mid-1970's from about 530,000 tons in 1957 and 2.2 million tons in 1972. (Japan is the leading supplier.) In 1976, Chinese steel imports amounted to about \$1.5 billion, or 24 percent of the nation's total imports. Steel and machinery are now the leading imports. Even if the expected production target of 60 million tons were reached by the late 1980's, steel importing would probably continue for years to come, especially if China's annual industrial growth rate were to be maintained at the 10 percent level.

China, the United States and the Soviet Union are the largest coal producers in the world, with each producing more than one-half billion metric tons a year. China's coal reserves are estimated at 1.5 trillion metric tons, including a proved reserve of about 80 billion tons. At a 50 percent recovery rate and the current rate of production, the total reserve could last

¹See *Wall Street Journal*, March 26, 1979.

²A recent estimate by an executive of the United States Steel Corporation shows that a greenfield plant costs about \$1,000 per ton of capacity, while expanding existing plants costs only \$500 a ton.

³Based on a production of 32 million tons in 1978.

for 1,500 years and the proved reserve for about 80 years.⁴

The bulk of China's coal is produced in provinces north of the Chang Jiang (Yangtze River). One-half the nation's coal production comes from north China (particularly Hebei and Shanxi) and the northeast (including Liaoning, Jilin, and Heilongjiang). It is estimated that the north accounts for 28 percent of China's production and about 20 percent of her reserve, while the northeast provides 22 percent of the nation's production and 2.7 percent of the total reserve. In contrast, the south accounts for about 10 percent of total production, and has only 1.2 percent of the nation's coal reserve. The northwest has 18.7 percent of the reserve, but contributes only 9 percent of total production. Because of their remoteness from the major populous and industrial centers, coal mines in the northwest have not been so fully developed as those in other parts of the country.⁵

About 77 percent of China's coal is bituminous, 19 percent is anthracite, and the remaining 4 percent is lignite. Reserves of coking coal are adequate to meet China's needs, at least in the near future. Much of the coking coal, however, is of poor quality and requires processing before being converted to coke.⁶

Coal currently accounts for about two-thirds of China's supply and consumption of primary energy, compared with approximately 20 percent of her needs provided by petroleum. In 1965, the corresponding ratios were 85 percent for coal and 7 percent for petroleum; the recent expansion in China's oil production has apparently increased the use of petroleum as fuel.⁷ In contrast, coal contributed about one-third of the Soviet supply and consumption of primary energy, about one-fourth of the energy produced in the United States, and about one-fifth of American energy consumption.

Modern, large-scale mines (led by Datong, Fushun, Fuxin, and Kailuan) account for about two-thirds of China's coal production; small mines produce the balance. The proliferation of small mines, units with an annual production ranging up to 100,000 tons, has been particularly rapid in the southern provinces, where coal reserves are not so concentrated as those in the north. Coal from these small mines, operated mostly by counties, communes and production

brigades, has been used mainly for local consumption. Because of the rapid expansion of these small mines, the fuel-deficient southern provinces have become less dependent on coal supply from the north.⁸

Like steel, coal production was stagnant in the 1960's, but expanded in the following decade. During 1965-1975, China's coal production maintained an annual growth rate of 7 to 8 percent. Production slackened in 1976, because of the turmoil following Mao's death and the Tangshan earthquake, but recovered in 1977 and 1978. The 1978 production level is about two-thirds higher than the 1970 output and more than 2.5 times the 1965 level.

The official economic plan calls for expanding the annual coal output to one billion tons by the mid-1980's. To attain this goal, Beijing plans to develop eight new major mines (among others), mostly in east, central-south and northeast China. One such project is the Huolinhe colliery in Jilin Province. Now under construction, this colliery will be the largest open-cut coal mine in China with an annual production in excess of 20 million metric tons,⁹ comparable to the current production of Fushun, Kailuan, Fuxin and Datong.

Since the early 1960's, China has relied mainly on the expansion of existing mine shafts to augment her coal supply. With these inexpensive means of expansion approaching their limits, China must initiate the development of new major coal fields like the Huolinhe colliery.

Despite the magnitude of China's coal reserves and production, coal has never been an important factor in the nation's export trade. In view of the comparative advantage that oil enjoys over coal as an earner of foreign exchange, China will probably prefer to use coal for domestic consumption to relieve oil for export.

PETROLEUM

Before 1950, China's petroleum production was negligible, and she depended mainly on imports to meet her domestic needs. Intensive explorations after 1950 led to the discovery of many new oil fields, first in the remote western regions and later in the north and northeast. Because of their proximity to populous and industrial centers, the oil fields in the north and the northeast have made China self-sufficient in crude oil since the mid-1960's and a net oil exporter since the early 1970's.

In 1978, China produced about 100 million metric tons of crude oil. About one-half the production came from Daqing (Taching) in the northeast. The Shengli and Takang oil fields in north China are also major producers; together they account for some 30 percent of total production. Despite the magnitude of their reserves, oil fields in the western regions have not yet been major producers because of transportation problems. During the 1960's and the early 1970's, China's

⁴Central Intelligence Agency, *China: The Coal Industry* (Washington, D.C., 1976), p. 3.

⁵Central Intelligence Agency, *Chinese Coal Industry: Prospects over the Next Decade* (Washington, D.C., 1979), pp. 1-2.

⁶*China: The Coal Industry*, p. 3.

⁷*Ibid.*, pp. 13-14. See also "What about Energy in China?" *China Reconstructs*, April, 1979, pp. 6-10.

⁸*China: The Coal Industry*, pp. 7-9.

⁹See "Key Projects under Construction," *Beijing Review*, March 23, 1979, p. 13; Hsiao Han, "Developing Coal Industry at High Speed," *Peking Review*, February 24, 1978, pp. 5-7.

crude oil production expanded at an average rate of about 20 percent a year.

China's oil reserve is estimated to range from 3 billion to 7 billion metric tons, with many promising offshore possibilities yet to be explored. In the coming decade, oil production is expected to grow 10 to 15 percent annually, rather than the 20 percent rate of earlier years. Even at this lower rate of growth, China's oil production may reach the level of 300 million tons a year by the late 1980's. An annual production of 300 million tons of oil is equivalent to about two-thirds of the current production of Saudi Arabia and exceeds Iran's peak production before the revolution.

Currently, China has been exporting between 20 million and 30 million tons of crude oil annually, mainly to Japan. If the present ratio of export to production were maintained, the annual export could reach a level of 90 million tons by the late 1980's, and could bring in an annual foreign currency earning in excess of \$10 billion. China is counting heavily on oil exports to finance her grain and capital-good imports from the West.

The availability of China's petroleum for export, however, will depend not only on the growth rate of production but also on domestic consumption. Petroleum now supplies a little over 20 percent of China's energy needs, up from 13 percent in 1970, and oil consumption has been growing at an average rate of about 15 percent annually. In light of the importance of petroleum as a source for foreign exchange earnings, the Chinese government will probably make every effort to slow down the expansion of domestic oil consumption by developing alternative sources of energy like coal and hydroelectric power, and accelerating oil production. The petroleum industry will probably continue to command a substantial investment and will receive a substantial infusion of foreign capital and technology. China's invitation to Western oil companies to participate in China's offshore explorations reflects this trend.

HYDROELECTRIC POWER

China attaches a great importance to hydroelectric power which, together with oil and coal, will constitute the nation's main sources of energy in coming decades. It is estimated that China has a potential

¹⁰"What about Energy in China?" *China Reconstructs*, April, 1979, pp. 9-10.

¹¹Central Intelligence Agency, *China: Energy Balance Projection* (Washington, D.C., 1975), p. 6.

¹²*China Reconstructs*, April, 1979, pp. 8-10. See also the article by Vaclav Smil in this issue.

¹³Xiang Rong, "Building a Dam on the Chang Jiang River," *Beijing Review*, March 23, 1979, p. 17.

¹⁴Huang Wei, *Conquering the Yellow River* (Peking: Foreign Languages Press, 1978), pp. 84-91.

¹⁵"Power Industry—a Top Priority," *Beijing Review*, April 13, 1979, p. 5.

hydropower capacity of 580 million kilowatts. If fully exploited, this potential could generate electric power equivalent to 14 billion tons of coal. About 70 percent of this potential is in the southwest provinces and about 40 percent is in the Chang Jiang (Yangtze River) valley.¹⁰

Since 1949, some 100 major hydropower stations and 86,000 small-scale stations have been constructed in various parts of the nation. Despite these efforts, the water power resources of China are woefully underdeveloped in terms of potential capacity or the annual energy supply in the nation. As late as the mid-1970's, hydroelectric power accounted for only one percent of China's energy supply.¹¹ Beijing's long-range plan calls for the construction of 20 major hydropower stations on rivers in the south, central, southwest, and northwest provinces. The most important of these projects are to be located on the upper and middle reaches of the Chang Jiang River and the Huang He (Yellow River). Among those under construction are the Gezhouba hydropower station in the Three Gorge area on the Chang Jiang River and the Longyang Gorge station on the upper Huang He.¹²

When completed, the Gezhouba station, the largest hydropower project ever undertaken in China, will have a capacity of 2.7 million kilowatts and is expected to generate up to 13.8 billion kilowatt-hours annually. This station, however, is only a part of the bigger Three Gorge project, which is expected to have a total generating capacity ten times that of the Gezhouba.¹³ The Longyang Gorge station has a capacity of 1.6 million kilowatts and can generate up to 5.7 billion kilowatts of electricity annually. Within a stretch of 900 kilometers east of the Longyang Gorge, four other hydroelectric power stations are already in operation. These five stations, with a total capacity of about 3.5 million kilowatts, will be the hub of a power grid for augmenting the agricultural and industrial development in China's northwest provinces.¹⁴ Upon their completion, the stations at Gezhouba and Longyang are expected to generate 19.5 billion kilowatt-hours of electricity annually, equivalent to about 81 percent of the 24 billion kilowatt-hours generated in 1974 by all hydropower stations in China.

Other major hydroelectric stations being planned or under construction are:¹⁵

The Gongzui station on the Dadu River in Sichuan Province. Capacity: 750,000 kw;

The Wujiangdu Station in Guizhou Province. Capacity: 630,000 kw;

The Baishan station on the Songhua River in northeast China. Capacity: 900,000 kw;

The Xierhe station in Yunnan Province. Capacity: 255,000 kw;

The Dahua station in the Guangxi (Kwangsi) Zhuang Autonomous Region. Capacity: 400,000 kw.

These projected major hydropower stations, together with the possible multiplication of small-scale

hydropower plants, could raise the share of hydropower in China's total energy supply. As an alternative source of energy, hydropower has the comparative advantage of its location in regions that lack an abundant coal supply. Moreover, building hydropower stations (particularly the small-scale ones) usually uses more labor than many manufacturing industries.

RAILWAYS

Besides developing manufacturing and energy related industries, China's modernization program includes the expansion of the railway systems, particularly in the western provinces. Some major lines that have been completed recently or are under construction include:

*The Southern Xinjiang Railway.*¹⁶ This railway extends from Turfan to Korla in Xinjiang Uygur Autonomous Region.

The Qinghai-Xizang Railway. The section between Xining and Golmud, both in Qinghai Province, is now under construction. According to the official plan, this line will ultimately be extended to Lhasa in Xizang (Tibet).

*The railways connecting Taiyuan (Shanxi), Jiaozuo (Henan Province), Zhicheng (Hubei Province) and Liuzhou (Guangxi Zhuang Autonomous Region).*¹⁷ This system of railways, running parallel to the Beijing-Guangzhou railway, forms a trunk line linking Taiyuan in the north and Liuzhou of Guangxi Zhuang Autonomous Region in the south. Liuzhou is in turn connected with the Hunan-Guangxi and Guizhou-Guangxi railways further south. Taiyuan is connected by railway with Datong in the north which is on the Beijing-Paotow Railway.

Beijing-Jilin Railway. This line connects Beijing with Tungliao (in Liaoning Province). This direct railway link between Beijing and Tungliao could be of great importance when the Huolinhe coal mine begins its operation. The Huolinhe colliery is expected to be the largest open-cut coal mine in the PRC.

In 1949, China had only 21,000 kilometers of railways. Today she has more than 50,000 kilometers of railways in use, with most new lines in the western section of the country.¹⁸

SOURCES OF FINANCE

China's ability to finance her modernization program and technology imports will depend primarily upon the growth rate of her gross national product;

¹⁶"Railway across Southern Xinjiang," *Beijing Review*, March 23, 1979, p. 16.

¹⁷"A New North-South Railway Line," *Beijing Review*, January 12, 1979, pp. 8-9.

¹⁸See Central Intelligence Agency, *China Economic Indicators* (Washington, D.C., December, 1978), p. 37.

¹⁹These estimates were derived from trade figures presented in Central Intelligence Agency, *China: International Trade* (Washington, D.C., December, 1978), p. 11, and the data given in the article on "Growing Foreign Trade," *Beijing Review*, April 27, 1979, p. 22.

the ratio of savings to GNP; the growth rate of her foreign currency earnings from exports and remittances; and the percentage share of capital-good imports in total imports.

It is estimated that, in 1978, the PRC earned about \$10 billion from her exports and remittances from abroad.¹⁹

In recent years, capital goods (including steel, machinery and complete plants) accounted for about 40 percent of China's total imports. Assume that the volume of her imports grows 10 percent annually along with her receipts from exports and remittances, and that the percentage of capital-good imports remains at the 40 percent level. Then China may have foreign currency resources of \$45 billion in seven years, or \$63 billion in the next decade, to finance her capital-good imports. Assume further that the GNP amounts to \$300 trillion and grows 5 percent annually in the next decade. A 20 percent saving-GNP ratio could yield a total accumulation of about \$562 billion in the next seven years, or \$754 billion in ten years. The foreign currency pool could be further expanded if China would accept foreign credit or investment.

Despite the magnitude of China's resources, they still fall far short of what is needed to finance the planned projects. The financial constraints make it necessary for China to reformulate her modernization program. To rationalize the utilization of her limited resources, Beijing appears to have chosen the following strategies: assigning a higher priority to projects that use less capital than to those with high capital-output ratios; improving the efficiency of existing plants; and making capital-good imports self-financing at least in terms of foreign currency expenditure.

In pursuing these strategies, Beijing will probably adhere to its usual conservative stance of self-reliance. Every effort will be made to keep international payments in balance and to borrow only within a planned limit. Today, Beijing prefers renovating or expanding existing plants over constructing "green-field" industrial centers. The steel industry apparently has been following this course. Developing a steel center from scratch involves the construction of not only the industrial plants but also the infrastructure essential to operating such plants, and therefore needs more capital than is needed to expand existing industrial sites.

Beijing is also attaching great importance to improving industrial management. Programs are being organized in educational institutions and at major

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"China's program for attaining its 1985 goals seems to be comprehensive and technically and economically sound."

Agricultural Modernization in China

By KUAN-I CHEN

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AGRICULTURE in China today is a mixture of traditional and modern systems. Traditional agricultural practices continue; modernization has proceeded slowly in most areas. Even in areas where modernization is relatively advanced, traditional agricultural techniques have been adapted to take advantage of new methods and new inputs.

Since 1949, agriculture's growth rate has been far lower than that of industry; agriculture now accounts for less than one-fourth of the gross national product. However, because of the crucial role of agriculture, fluctuations in agricultural output will have a much greater effect on the rest of the economy than its relative share of gross national product indicates. Therefore, agriculture will continue to receive high priority in the allocation of investment resources.

The Chinese must feed over one-fifth of the world's population with food output on only seven percent of the world's cultivated land. Historically, China's agriculture has been characterized by intensive farming—intensive labor on a limited supply of land. The gradual expansion of the organic fertilizer supply, improved irrigation, and multiple cropping raised the yield per unit of farmland. However, the population increase swallowed up nearly all such gains. By the end of the 1950's, the yield per acre had already reached the maximum attainable using predominantly traditional methods. Any further significant increase in the per unit yield will depend on the availability of modern inputs like agrochemicals and mechanization and improved seeds and techniques. The large population increase during the past 30 years necessitates the adoption of any modern inputs and techniques that will facilitate the current drive toward modernization.

China's main agricultural region is located in the eastern half of the country, roughly divided into North and South China by the Changjiang (Yangtze) River.¹ The agricultural base in the high-precipita-

tion, semitropical south is paddy rice; the base in the drier and seasonal north is a dry land crop like wheat or coarse grains. In the rice region of the south, the climate and an adequate water supply allow a longer growing season and multicropping of large areas. Although soils are poor, organic fertilizer is available because of the high density of the human and animal population. The rice yields per unit of sown areas in China (about 4 metric tons per hectare) are far higher than yields in most less developed countries. In the north, although soils are richer, the shorter growing season, recurrent droughts, and floods result in a relatively low crop yield. Wheat yields are on a par with those obtained by other less developed countries.

Since 1962, when China adopted a policy of "agriculture first," there have been an expansion of investment in agriculture and a steady increase in the supply of modern inputs to the communes.² However, policy has fluctuated between emphasis on large plant production and emphasis on rural small-plant production, and between emphasis on importing plants and products and on domestic production. Specific programs also called for "agriculture first." The most important program has concentrated on building up areas of high and stable yields and giving them the highest priority in the allocation of modern inputs. The areas to be chosen were to be those that would yield the fastest and highest return for the least capital.

The high and stable yields areas were essentially areas with comparatively high unit yields and adequate irrigation and drainage facilities. These areas were able to make very good use of the new improved seeds and chemical fertilizers, because requisite irrigation and drainage facilities were available. In addition, yields and income were higher in these areas, which could better afford to purchase essential modern inputs and absorb the risks associated with their use. These areas were also regarded as major sources of grains and other agricultural products.³

Following such a policy, the rice region in the south, where already there was a high percentage of land with high and stable yields, received most of the chemical fertilizers, and new rice seeds were spread over a wide area during the 1960's. However, most readily achievable gains in yields in the south had been obtained by the end of the 1960's.

¹John L. Buck, *Land Utilization in China* (Nanking: University of Nanking, 1937).

²Alexander Eckstein, *China's Economic Revolution* (New York: Cambridge University Press, 1977).

³Yan Po, "Construction of High-Yield Farmland" in *Ta Kung Pao*, Peking, May 1, 1964; translated in JPRS, no. 25069, June 12, 1964, pp. 5-10.

Yields of grain in the north did not improve much during this period. Since the late 1960's, irrigation has been expanded;* consequently, the areas of high and stable yields that could more fully utilize chemical fertilizers and new seeds have been expanded in the wheat region. Many provinces in the north are now self-sufficient in grain output.

Because areas which were not high and stable yielding were given low priority in the supply of modern input, especially chemical fertilizers, they were encouraged to build up their agriculture base self-reliantly. In 1964, the Dezhai production brigade in remote Hsi-yang County (Shanxi Province) was designated the national model for Chinese agricultural development through self-reliance. Originally a poor production brigade located north of the Huai He River, by 1964 Dazai had already made great progress on its own in developing its agricultural base. Building up high-standard terraced fields by leveling hill-tops and filling in gullies and using more fertilizer and improved seed, it had surpassed not only the grain yield target set for 1967 by the National Program for Agricultural Development (NPAD) for areas north of the Huai He River (3.75 tons per hectare) but also had surpassed the target set for areas south of the Huai He River (6 tons per hectare). This model brigade has been visited by thousands of people from all over China each year. The slogan, "In Agriculture Learn from Dazai," has been adopted to promote a number of aims; the most important are farmland capital construction and independence of state aid.⁴

Between October, 1976, and the summer of 1977, economic policy revisions in most key sectors were revealed. The major themes and details of the new agricultural policies were given in two key speeches. In January, 1978, the speech given by Vice Premier Yu Qiuli to the third national conference on agriculture mechanization spelled out the goals, targets and plans for mechanization by 1980.⁵ The speech given by Chairman Hua Guofeng on February 26, 1978, to the fifth National People's Congress described the goals and policies for agricultural production as part of the 10 year plan (1976-85) for the development of the national economy.⁶

During this 10 year plan period, the agricultural sector will be called upon to achieve greater output and efficiency to feed a growing population, to upgrade living standards, to provide labor, raw materials and capital funds, and to earn more foreign exchange through expanded farm exports. Before Chairman

Hua's speech to the Congress, it was not clear that agriculture would continue to receive priority. Hua made it clear that agricultural development is still considered the key to economic growth and that the agricultural sector, particularly farmland capital construction, will receive a greater share of the expanded investment fund for national economic development. The reinvestment of local revenue in agriculture is also emphasized.

In order to accomplish these important tasks, a high level of agricultural output is required. The 10 year plan set the production goal for grains at 400 million metric tons (MMT) by 1985—40 percent above the 1977 level—and set the annual rate of growth for gross agricultural output at 4-5 percent for the period 1978-1985. To attain these overall goals, broad subtargets were set. Some 70 percent of the major work in agriculture, forestry, animal husbandry, sideline production and fisheries will be mechanized by 1980 and 85 percent will be mechanized by 1985. By 1985 each person in a rural area is to be ensured one mu (one-fifteenth of an hectare) giving stable high yields, irrespective of drought or water-logging, a goal to be reached by means of expanding efforts in farmland construction.

To achieve these ambitious goals, action was taken to tackle problems that were deemed crucial to the attainment of a more rapid rate of agricultural growth. To provide incentive for the peasants, in the rural communes the rights of ownership and management of each basic accounting unit—the production team—are to be respected and safeguarded. There is to be no appropriation without compensation and no arbitrary orders. The cadres are to be elected by commune members and may be removed by them. Support must be given to commune members cultivating their plots for personal use and engaging in proper sideline activities. Rural fairs must be well run to facilitate legitimate trade at the village level. State credit will be available to communes for farm mechanization, diversification of farm production and the running of small industries. Long-term, low-interest loans are to be extended for specific purposes. The state plans to restore the agricultural bank and to raise the interest rate on deposits in rural areas to accumulate more funds for agricultural construction. The state supports commune or brigade-run industries through lower taxes or tax exemption and by providing needed capital and materials. Commune processing industries with an annual net profit of less than 3,000 yuans are tax-exempt and new industrial enterprises in financial difficulties are free of tax for two or three years.

To improve the terms of trade for the agricultural sector, the prices of industrial products needed by rural areas will be lowered further and the prices of farm products will be raised. More consumer goods

*See pp. 57 ff.

⁴Henry J. Groen and James H. Kilpatrick, "Chinese Agricultural Production," *Chinese Economy Post-Mao*, vol. 1, "Policy & Performance," Joint Economic Committee, U.S. Congress, November 9, 1978, pp. 607-52.

⁵*Beijing Review*, no. 7, February 17, 1978, pp. 9-10.

⁶*Beijing Review*, no. 10, March 10, 1978, pp. 7-40.

and building materials will be supplied to the communes. To respond to peasant complaints about the poor quality of industrial goods, especially farm machinery, no substandard products are to be allowed to leave the factories. Factories are responsible for repairing, replacing or refunding the cost of any defective product, and must compensate peasants' losses.

To encourage the peasants to overfulfill production quotas, the agricultural tax and grain purchasing quotas are fixed for five years instead of three years. Once the tax and quota are fixed, there will be no change for five years no matter how much the peasants produce in excess of their production quotas. Any grain production in excess of their quotas can be kept in reserve for their own use or to sell at a higher price set by the state. The advantages of specialization have also been given more attention. A greater share of state agricultural investments will go into the development of marketable grain and cash crop production centers, and into centers for livestock-breeding, fishery, and forestry. Particular attention will be given to developing animal husbandry. Production centers will be built by expanding state farms or reclaiming virgin land or combining several communes. These centers will have up-to-date machinery and will be run scientifically to yield the highest return with the least effort. Communes near urban centers have such advantages. They can be depended upon to meet the needs of urban Chinese for grains and non-staple foodstuffs, and to expand exports. Such centers will relieve the pressure on peasants to supply foodstuff to urban centers. In turn, the peasants will have more surplus grains to raise poultry and livestock and to develop collective and household sideline occupations.

Expanded efforts on reforestation and the greater utilization of the 200 million hectares of potentially usable grassland are scheduled. In order to make the target of 400 million metric tons of grain output by 1985 more attainable, the 10 year plan also called for the reclamation of 13 million hectares of wasteland in northeast and northwest China by 1985. This is in addition to the water conservancy construction every year in the winter and spring, in which millions of peasants have been mobilized to level and improve land to expand the high and stable yielding areas. A system of agro-scientific-technical research and popularization will be set up and perfected, and a compulsory eight years of education in the rural areas, with emphasis on agriculture, will be established by 1985.

Obviously, these measures were designed to over-

come a wide range of problems affecting the overall agricultural growth rate. Planners are aware of the existing constraints on China's agricultural development. The overall plan for agriculture and the grain output target of 400 million metric tons by 1985 are very ambitious. The annual (compound) growth rate of total grain production for the period 1949-1976 was around 2.8 percent starting from a low base in 1949, and the rate for 1970-1976 was about 2.4 percent.⁷ The long-term growth rate for total agricultural production is only slightly higher, around 3.0 percent. The target of 400 million metric tons of grains by 1985 implies an annual growth rate of about 4.5 percent. Since 1949, the per capita grain output in China has fluctuated around 300 kilograms; there has not been a genuine breakthrough in agricultural production in the past 29 years. The 1978 grain output was reported at 295 million metric tons.⁸ With a population of around 950 million, the per capita grain output for 1978 was 310 kilograms. Assuming that population growth rate will decline from around 1.5 percent to 1.0 percent by 1985, the population should reach 1.045 billion that year. This implies a per capita grain output of 380 kilograms for 1985 and would be a breakthrough.

What are the prospects of achieving the targets by 1985? The answer lies in the capabilities of China's agricultural technology. Agriculture will continue to receive increasing support from the state. A number of crucial factors regarding the peasants' security, initiative and economic incentive have also been taken into consideration. Therefore, the critical remaining factor is whether the Chinese capability in agricultural technology is adequate.

AGRICULTURAL TECHNOLOGY

For a long time, planners have recognized the serious constraints on cultivated land and capital, but perceived no constraints on the supply of labor except perhaps in peak seasons. As the farming system becomes more and more intensive, the planners tackle seasonal labor bottlenecks with selected labor-saving innovations.

The target of 70 percent "basic mechanization" of major agricultural, forestry, animal husbandry, sideline production and fishery operations by 1980, and 85 percent by 1985 is not precise because the concept of "basic mechanization" is not clearly defined. If 70 percent "basic mechanization" implies that 70 percent of the farm work in all the communes will be mechanized, then this is indeed a difficult goal. But more definite output goals for various machinery are set for 1978-1980.⁹ By 1980, the output of large and medium sized tractors, large and medium sized tractor-drawn farm tools, walking tractors, drainage and irrigation machines are to be increased by 70 percent, 110 percent, 36 percent and 32 percent respectively.

⁷Economic Statistics and Cooperative Service, U.S. Department of Agriculture, *People's Republic of China: Agriculture Situation, Review of 1977 and Outlook for 1978*, May, 1978, pp. 1-19.

⁸*Beijing Review*, January 12, 1979, p. 7.

⁹*Beijing Review*, February 17, 1978, p. 9.

Fairly large increases will also be made in the production of machines for farmland capital construction, plant protection, transportation, harvesting and agricultural processing machines.

All these output goals are attainable if sufficient input resources are allocated to their production. However, when these output goals are achieved, the overall level of mechanization will still be low because of the very low 1977 base. It will still be impossible to mechanize some 70 percent of the major farm work if the mechanization standard of more advanced nations is the yardstick. The limited machinery on hand could be most profitably utilized by concentrating on state farms, the reclamation of new land, farmland capital construction and irrigation expansion, focusing on the communes specializing in production on the outskirts of cities or other modern agricultural production bases.¹⁰ Although overall goals may remain essentially unchanged, some output goals may be scaled down while some will be speeded up to adjust to changing but pressing needs. Even in a labor-abundant country like China, progress in farm mechanization, with the proper mix of various types of machinery and equipment, is essential. Mechanization facilitates the expansion of high and stable yielding areas, reclaimed new land and multiple-cropping practices; improves the quality and speed of grain drying before storage and the application of insecticides and fertilizer; and diverts feed grains from a dwindling number of draft animals to hogs and poultry. In addition, mechanization releases labor for sideline and rural small industry development that is crucial to any significant rise in peasant income and living standards.

The official encouragement of self-reliance has been successful; small farm machinery and repairing enterprises have been established in most of the more than 2,000 counties in China. They utilize local resources and help to speed up the supply of needed agricultural machinery. However, there are problems, including the non-interchangeability of parts, the non-specialization of farm machine production, the lack of coordination between production and marketing, the lag in maintenance and managing the production of farm machines, and the resulting failure to utilize farm machines fully in the communes. To cope with these problems, the third national conference on agricultural mechanization, on January 26, 1978, recommended standardization, serialization, multipurpose use of machinery, better coordination in machinery usage, production and demand, scientific

research, and emphasis on product quality.¹¹

Because of the rapid development of modern primary energy production in the past two decades, China has risen to fourth place among nations in the world in primary energy production (behind the United States, the Soviet Union, and Saudi Arabia) and to third place in energy consumption (after the United States and the Soviet Union). She has also become a minor fuel exporter. Yet her per capita modern energy consumption ranks approximately one-hundredth among the 175 countries in the world, and her energy consumption still resembles that of other less developed countries where a large percentage of the rural population still depends on plant fuels and animal power. As farm mechanization increases, energy consumption in the rural areas will also rise rapidly. Soon China's rural consumption will be more dependent on auxiliary energies (fossil fuels and electricity) than on animal power and organic fuels and waste.

In 1950, less than one percent of China's total primary energy was consumed by the agricultural sector; but by 1976 six percent was consumed by this sector. Although the agricultural sector is still a small user of energy, its demand for energy will grow very rapidly. Because of the lack of infrastructure like extensive electrical power systems and roads, China's farm energy supply depends on small-scale technologies, including small terminal power plants, small coal mines, small hydropower stations and biogas generation. But because of the rapid growth in farm energy consumption, these sources cannot meet the overall farm energy demand, especially for motors for irrigation pumps, processing, and hand-guided tractors. These activities depend particularly on crude oil. As early as 1974, the agricultural sector was already using up about 20 percent of the total crude oil consumption in China.¹² The percentage may grow in light of the planned expansion in farm mechanization. However, Chinese domestic oil industry can supply this need.

With the widespread use of improved seeds that have a high marginal rate of response to fertilizer, both organic and chemical fertilizers are in great demand. Because of the high priority for agriculture, fertilizer production has expanded at a very rapid rate. The traditional Chinese practice was to use a high level of organic fertilizer, comparable to the roughly 50 kilograms per hectare of nitrogen from organic sources that Japanese farmers used in the early 1900's. While other nations including Japan have greatly reduced their use of organic fertilizer, China expanded its supply by about 41 percent during 1957-1971. Organic fertilizers are needed over the long term for soil conditioning in farming as intensive as China's. Moreover, organic fertilizers not only contain organic materials and nitrogen, but have

¹⁰V.G. Kulkarni, *The Christian Science Monitor*, March 28, 1979, p. B14.

¹¹*People's Republic of China*, p. 7.

¹²Vaclav Smil, "China's Energetics: A System Analysis," *Chinese Economy Post-Mao*, Joint Economic Committee, U.S. Congress, November 9, 1978, pp. 323-69.

a high potassium and phosphate content relative to plant requirements. Their use therefore allows concentration on the production of nitrogenous chemical fertilizers.¹³ Organic fertilizer supplies cannot be increased very rapidly because of their nature. However, they may be increased because of the large projected increase in the number of pigs, each of which is to supply 30-40 kilograms of ammonium-sulphate-equivalent.

As farming becomes more intensive and improved seeds are more widely used, chemical fertilizers become crucial. The amount of chemical fertilizer used was negligible before 1949. The production of chemical fertilizers increased from about 5,000 metric tons in 1949 to 7.565 million metric tons in 1977. The 10 year plan called for an increase in output of 58 percent between 1977 and 1980. In 1972, China contracted for the construction of 13 pairs of ammonia-urea plants, among the largest in the world. Some of them are in operation, and when all of them are operating at full steam in 1980, they will add about 3.5 million metric tons of nutrients. For the next few years, China will continue to build and/or import large plants in addition to the small and medium-sized chemical fertilizer plants that are being built in the provinces and counties. The increase in chemical fertilizer output has been phenomenal, reflecting China's enormous effort to support agriculture since she adopted the "agriculture first" policy.

So far, nitrogen fertilizer has received greater priority in both production and import; phosphate fertilizer is second; and potash is only used in small amounts. The proportion of these three kinds of fertilizer produced in 1977 was 64 percent, 32 percent and 4 percent respectively. Before 1949, soils in most crop areas in China were deficient in nitrogen.¹⁴ Phosphate was the next most needed chemical, especially in the south, and potash was not needed in most soils. Because the large amounts of organic fertilizer being used provide a high level of potassium and phosphate, the emphasis on the production of nitrogen fertilizer is basically sound. However, substantial amounts of nitrogen fertilizers are produced by small plants using coal as raw material, and an important part of their production is ammonium bicarbonate. These fertilizers are considered low quality nutrient, but they are nevertheless useful. They use local resources and labor and eliminate the cost of transporting fertilizers to rural areas. As a result, the quality of Chinese fertilizers varies from excellent to poor, depending largely on the size of the fertilizer plants.

¹³Thomas B. Wiens, "The Evolution of Policy and Capabilities in China's Agricultural Technology," *Chinese Economy Post-Mao*, Joint Economic Committee, U.S. Congress, November 9, 1978, pp. 681-7.

¹⁴Groen and Kilpatrick, *op. cit.*, p. 634.

¹⁵*China Reconstructs*, April, 1979, pp. 55-7. See also Smil, *op. cit.*

Because of the variations in the fertilizer produced and the great variety in soil conditions and types of crops, a breakthrough in Chinese agriculture requires extensive, detailed soil maps for the farmland of each commune; soil tests and analysis of commune farmland; experiments at the commune level on the response of crop yields in various soils to fertilizer application; and discovering the right proportion among the three kinds of chemical fertilizer plus organic fertilizer and the right amount of all these fertilizers for various crops on different land. As more and more of this information is acquired and extended to the peasants, it will contribute significantly to a breakthrough in agricultural production. This requires a long-term commitment and the training of many agricultural technicians. In the short term, more and more chemical fertilizers of various qualities allocated to the more productive land will result in steady gains.

Irrigation and drainage in China, as elsewhere, serve to raise productivity and crop yield. But China's unique problems of uneven rainfall distribution, topography, and lack of forestation make irrigation and drainage more crucial in crop production than in many other countries. As more and more modern chemical fertilizers are being used, irrigation and drainage become even more crucial in facilitating their use and increasing their payoff in yield. The Chinese slogan, "irrigation is the lifeblood of agriculture," reflects this reality. Over 46 million hectares of the 110 million hectares of Chinese farmland are now irrigated, compared with 16 million hectares in 1949. Of the 23.3 million hectares of farmland classified by China as lowland, two-thirds are now provided with drainage systems. In addition, one-fourth of China's hilly farmland has been converted into terraced fields.¹⁵

Before 1949, most of the irrigation facilities in China were in the rice-growing region of the south, where rainfall is abundant and the growing season is relatively long. Although more irrigation facilities have been added in the south since 1949, the main focus has been the wheat region in the north where rainfall is scarce and unpredictable. The most serious problems of agriculture in the north are drought, flooding, silting, waterlogging and alkalization. Expansion of reliable irrigation in northern China requires very large investment in river control and deep-well digging. In the North China Plain the rapid

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"As a success story of growth and development, Taiwan has captured the imagination of developing countries. Thanks to her dynamic economy, she has won the respect of the world."

Taiwan's Future

BY THEODORE HSI-EN CHEN

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THE normalization of relations between the United States and the People's Republic of China (PRC) was delayed for seven years because of perplexing problems. The Taiwan problem was certainly the most complicated and the most difficult.

The Taiwan problem was serious because the United States had a great deal at stake in Taiwan as a pillar of economic and military stability in the Pacific area and because Americans held heavy investments in Taiwan. United States-Taiwan trade was nearly \$7.5 billion in 1978, 39.5 percent of the foreign trade of the Republic of China (ROC), making Taiwan the eighth largest trading partner of the United States. American business had invested \$516 million in Taiwan's industries, and American banks had more than \$4.1 billion in loans outstanding as of June 30, 1978. In pushing for normalization with the People's Republic before a deadline in December, 1978, President Jimmy Carter left the intricate Taiwan problem for later consideration, and Congress had to hammer out a workable formula to continue relations with Taiwan on a nongovernment basis after diplomatic relations between Taiwan and the United States were severed.

To say that President Carter's December 15, 1978, announcement shocked the government and people of Taiwan is to put it mildly. Many people in Taiwan believed that normalization of Chinese-American relations was inevitable but they did not expect the final decision would be so sudden. Even the United States Congress had not been informed of the progress of negotiations. In his interview with Walter Cronkite on December 19, President Carter revealed frankly that in the final weeks of negotiations he "did not consult with anyone outside of a very tiny group within the executive branch of the government" and that he did not want to jeopardize success by eliciting wide divergencies of views."

The shock and dismay of the people in Taiwan led to an eruption of intense emotion that threatened to endanger the peace and stability of the island republic. Facing an uncertain future, the Taiwanese wondered whether the loss of security would jeopardize the life and livelihood they enjoyed. For-

tunately for Taiwan and for the rest of the world, the initial shock led to an outburst of self-confidence and determination. Today, Taiwan is tranquil and peaceful. The government continues to pursue its goals of economic prosperity and political stability; the people go about their daily work with the vigor and optimism they showed before.

It is not difficult to understand the initial emotional reactions to the December 15 announcement. People in Taiwan hoped that American diplomacy would be able to find a formula that would avoid the complete and unqualified acceptance of the Chinese demands for the withdrawal of American troops from Taiwan, the abrogation of the United States-ROC Mutual Defense Treaty, and the severance of diplomatic relations with Taiwan. Taiwan had been given misleading assurances in the preceding months. On October 10, 1978, in a congratulatory message to the Republic of China on the sixty-seventh anniversary of its birth, President Carter sent wishes for the continued enjoyment of peace and prosperity in Taiwan. On November 3, amidst widespread speculation of a definite date for normalization, Secretary of State Cyrus Vance categorically stated that "no decisions have been made, nor can I predict what either the modalities or the timing would be" for the consummation of negotiations. As late as November 30, Assistant Secretary of State Richard Holbrooke still maintained in a public address that "we do not have a firm timetable." The government of Taiwan was neither consulted nor forewarned.

The government and people of Taiwan resented the fact that the United States government informed the governments of Japan and the Soviet Union of the impending announcement before it sent a last-minute message to Taiwan. The United States Ambassador to the Republic of China went to the residence of President Chiang Ching-kuo after midnight and awakened him to break the news that some seven hours later the President of the United States would make an announcement that would affect the status of Taiwan and its relations with the United States.

Some observers expected a decline of morale in Taiwan. But the threat to stability lasted only a few days. After a brief decline, the stock market regained

its health and real estate values remained steady. There was no flight of capital and no rush of people emigrating. On the contrary, liberalized government regulations on travel made it easier for residents to obtain passports and exit permits for travel.

Early slogans of indignation and protests were replaced by vows and pledges of a more constructive nature. A huge wall poster erected by the students of National Taiwan University urged their countrymen "to be firm with dignity, to be calm in time of adversity, and to stand up courageously to fight for the future." It stressed self-reliance: "Only we can save our own country; only we can pave the way ahead for ourselves." Expressive of the same spirit was a poster prepared by art students of the privately owned Yu-Teh Middle School, which featured plum blossoms, the national flower of Taiwan. Above the picture of a plum tree in bloom was the caption: "Plum Blossoms: the more severe the cold the more luxuriantly they grow."

There was an upsurge of patriotic fervor. Within 24 hours after December 15, a nationwide campaign was on foot to make voluntary contributions to a Self-Reliance and National Salvation Fund. *The Los Angeles Times* reported on December 21, 1978, that the contributions had added up to U.S. \$5 million in a matter of days; a woman gave the proceeds from the sale of her pet dog, other women gave up their jewelry, a retired soldier donated his life's savings, factory workers contributed a day's pay, a taxi driver offered a month's earnings, a movie star gave more than \$300,000, and an industrialist contributed \$1.40 million. Gifts filled roadside collection boxes; leading newspapers and banks served as recipients on behalf of the fund, which was set aside to bolster defense capabilities. A proposal to earmark the fund for jet fighter planes was accepted by the government, which authorized the purchase of 18 FSE jet fighters to form a Self-Reliance Air Force Squadron, to be inaugurated on the traditional October 10 National Day of ROC in 1979.

By the end of May, the total receipts of the Self-Reliance and National Salvation Fund reached the equivalent of approximately \$10 million. The contributions continue to pour in; enthusiasm is still high; and the spontaneous expression of patriotic fervor is impressive.

PROSPERITY

Taiwan is advancing steadily from a developing country to a country in a promising stage of industrial growth, recognized as one of the most attractive areas for investment by major foreign financial and business institutions. Mounting trade surpluses add up to an

accumulation of foreign reserves worth about \$6.5 billion, and the rate of growth accelerated in the months after the severance of relations with the United States. The Ministry of Economic Affairs announced that the total volume of imports and exports in the first quarter of 1979 amounted to \$8,855.2 million, a 36.9 percent increase over the same period of 1978, and economic growth reached 10.7 percent although the target set by planners for the entire year was only 8.5 percent. Per capita income, rising each year, now exceeds \$1,304; it was \$719 in 1968. Major projects of construction and development¹ are proceeding without interruption. Signs of prosperity are evident everywhere: the eye-catching international airport, the new housing projects, the modernized look of rural villages, the way people dress as they walk along the streets or dash about in motorcycles, the brisk business in department stores, even the maddening traffic on the streets of Taipei.

The increase of foreign investments in Taiwan in the first quarter of 1979 testifies to the confidence of investors. Japanese investors top the list, with the Americans a close second. Government officials are gratified by the increase of the investments of overseas Chinese because they see in this increase a sign of continued close links with Chinese abroad.

In the euphoria of heightened prosperity and the enjoyment of a high standard of living, American derecognition is not a subject of everyday conversation. President Chiang Ching-kuo, Premier Y. S. Sun, and other government leaders have emphasized that the United States and Taiwan have common interests in the Pacific area and that both countries have much to gain from close cooperation and cordial relations.

The Taiwan Relations Act, enacted by Congress to define and implement the new relationship with Taiwan, contains provisions designed to protect the rights and interests of Taiwan in the absence of formal diplomatic relations with the United States. There is to be no change in the application of United States laws "with respect to Taiwan prior to January 1, 1979"; no abrogation or modification of "any rights or obligations . . . under the laws of the United States heretofore or hereafter acquired by or with respect to Taiwan"; and others expressing similar intent.

To allay fears of vulnerability to attack after the termination of the Mutual Defense Act, the Act declares that "peace and stability in the area are in the political, security, and economic interests of the United States, and are matters of international concern" and that "any effort to determine the future of Taiwan by other than peaceful means, including boycotts or embargoes" will be considered "a threat to the peace and security of the Western Pacific area and of grave concern to the United States."

The Taiwan Relations Act, if and when it is fully implemented and approved by President Carter, will

¹The first ten projects were reported in an article in *Current History*, September, 1975.

soften the effects of derecognition on the practical relations between Taiwan and the United States. To comply with the normalization agreement, the American Institute in Taiwan, a nongovernmental entity, has been established and is functioning as an officially recognized agency directed to represent the United States in its relations with Taiwan. Its staff consists of United States foreign service personnel temporarily separated from government service but entitled to later reemployment or reinstatement with no break in continuity of service and compensation, including benefit programs for health and life insurance and retirement.

The Taiwan counterpart of the American Institute is the Coordination Council for North American Affairs, established by Taiwan's government to represent Taiwan in the same way that the Institute represents the United States. The Council has a main office in Washington, D.C., and branch offices in the eight American cities where ROC consulates were located. The branch offices of the council are in the premises formerly occupied by the ROC consulates, and there is little change in the scope of activities except for the absence of official relations with the United States government. There are direct communications between the institute and the council, both of which are officially recognized by both governments. The director of the American Institute in Taiwan and the director of the Coordination Council for North American Affairs held ambassadorial rank prior to their current appointments.

The Taiwan Relations Act bears testimony to the ingenuity of American lawmakers, who designed a program to preserve American interests and continuing relations with Taiwan within the framework of the normalization agreement. Japanese leaders have already expressed a desire to revise their relations with Taiwan by incorporating some features of the Taiwan Relations Act. France has taken steps to broaden its activities in Taiwan; West Germany and other countries may follow suit.

Taiwan's current policy is to continue to strive for a sound economy and to seek closer cooperation with friendly countries, especially the United States, to maintain and advance peace and stability in the Pacific area. Measures are being taken to make trade relations and investment opportunities more attractive to Americans. To help relieve the United States trade deficit Taiwan has adopted a "Buy American" policy, buying what it needs from the United States to cut its trade surplus with the United States. Three purchase missions were dispatched to the United States in 1978. The first negotiated in 19 different states for the purchase of agricultural products and industrial materials and equipment totaling \$268.86 million, of which more than half was spent on agricultural products like corn, soybeans, and wheat. The

second mission bought even more goods, totaling \$786.7 million. A third mission contracted to buy \$560 million worth, including \$334 million worth in agricultural products. Two similar missions have been announced for 1979. Procurement missions have also been dispatched to Japan and Korea.

At present, Taiwan imports only American-made passenger cars. While investors from several countries are eager to invest in Taiwan, the government accords priority to Americans. Two contracts signed in May, 1979, were the result of this policy: a joint venture with the Chrysler Corporation to build a \$70 million factory in Taiwan to manufacture trucks, and a \$100 million plant to produce big turbo-generators in a joint venture with General Electric. In both instances, bidding was restricted to American companies.

LOOKING AHEAD

Taiwan's leaders repeatedly declare that the strength of the government lies in the advancing economy and the support of the population. The two are inseparably interrelated. The Taiwanese support the government because it has encouraged a prosperous society in which the people enjoy the benefits of modernization. In the event of a serious economic decline, however, popular support would dwindle. Economic advance depends on trade, and a constant flow of imports and exports must be maintained. Taiwan's future clearly depends on the maintenance of adequate security to insure the uninterrupted flow of trade and the availability of foreign loans and investments.

As a success story of growth and development, Taiwan has captured the imagination of developing countries. Thanks to her dynamic economy, she has won the respect of the world. Taiwan enjoys diplomatic relations with more than 20 countries, none of which have been influenced by the withdrawal of American recognition. Teams of technical experts from Taiwan render service in African countries. Saudi Arabia recently requested the assistance of medical personnel from Taiwan to help provide modernized health service; for five new hospitals constructed by a German contractor, Saudi Arabia has asked Taiwan to send doctors, administrators, nurses and engineers to take charge of the operation and management. Taiwan has also agreed to send agricultural personnel to help develop agriculture in Saudi Arabia. This cordial relationship has proved to be of

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"... for the first time since 1949, China's political leaders and its intellectual elite are being exposed to Western methodology and to the concepts behind them. Today, the process of myth deflation and regeneration of critical judgment has gone so far that it will be difficult to stop."

The Implications of China's Liberalization

BY MERLE GOLDMAN

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THE People's Republic of China is undergoing one of those intermittent periods in its history where it allows and even encourages criticism and demands for human rights. It is generally thought that such practices are unique to Western society, but (although the number may be proportionately smaller) throughout Chinese history individuals have criticized their leadership. Confucian tradition obligated any literati, in or out of government, to speak out if he believed that the leadership had deviated from Confucian humanistic ideals and from fair treatment of the populace. Such criticism was not one's legal right, as in the West, but one's moral responsibility. It produced a semi-official opposition in China's elite. With the influx of Western ideas into China in the early twentieth century, sizable numbers of non-literati and students joined the intellectuals in demonstrations against the prevailing regime and expanded their demands to include democratic and legal rights.

Even under the monolithic control of the Communist party, protest movements have been a recurring phenomenon. But because these activities have no institutionalized or legal basis, political critics must have the backing of the top leadership in order to express themselves publicly, in the media or even in wall posters. In the first large-scale outburst of criticism and demand for human rights, the Hundred Flowers campaign in the spring of 1957, Mao Zedong himself sanctioned criticism of the regime. To prevent Polish- and Hungarian-style uprisings, which he regarded as movements of repressed discontent, and to stimulate intellectuals to solve increasing economic difficulties, Mao encouraged them to criticize the bureaucracy openly. In response, in large character posters and in printed pamphlets, intellectuals and students not only condemned the arrogance and incompetence of the bureaucracy, but also (in some cases) attacked the one-party rule of the Communist

party. They went much further than Mao intended and were consequently silenced.

In the early 1960's, in the context of the factional rivalry between the Maoists and the party apparatus there was another protest movement over the methods for modernizing China. The Maoists stressed ideological indoctrination and mass movements; the party apparatus advocated pragmatic economic measures. Intellectuals promoted both views in the public media. The party apparatus, including the present Vice Premier, Deng Xiaoping, allowed relatively liberal intellectuals to criticize the Maoist approach subtly but publicly. But this group not only criticized the excesses of Maoist policies, like the Great Leap Forward (as their political patrons wished), they also asked for a degree of intellectual freedom and a voice for scholars in political decision-making. Their patrons were interested in pragmatic policies, but not necessarily in the pluralistic values of the intellectuals. Once again, they had gone much further than the party apparatus anticipated. With pressure from Mao, the party apparatus suppressed them.

Could a similar story be unfolding in China today? There are similarities with the previous periods of "blooming and contending." As in the past, the criticisms and demands are being used in factional rivalry. A *People's Daily* Commentator article of January 4, 1979, admits, "Although Lin Biao and the gang of four have been crushed, their reactionary fallacies still influence some of our comrades."¹ Many Chinese who were closely associated with Mao and who came to power in the Cultural Revolution were resistant to rapid modernization. To counter their criticism, Deng has reprinted the work of those who criticized Mao's use of mass mobilization and ideological movements at the expense of economic development. To re-establish legal and orderly procedures of government after 15 years of disruption, he has rehabilitated intellectuals and party officials who were arbitrarily persecuted. He needs them to help modernize China and to correct irregular party practices.

Nonetheless, as in the past, these acts may develop a momentum of their own. As in the Hundred Flowers campaign, a movement that starts as a criticism of

¹*People's Daily* Commentator, "Comprehensively and Accurately Understand the Party's Policy toward Intellectuals," January 4, 1979, in *Beijing Review*, February 2, 1979, p. 13.

political practices can become a demand for democratic rights that may lead to questioning the rule of the party and communism itself. The current criticism has the potential for a similar challenge. The regime has sought to channel the hostilities released by the Cultural Revolution onto one target—the gang of four. But there is a question whether it can control the hostilities it lets loose.

REHABILITATION

The transformation of the villains of the last 15 or 20 years into heroes and the heroes into villains is not only a rejection of Lin Biao and the gang of four but also of Mao's and, inadvertently, of the party's policies. For example, the posthumous rehabilitation of Peng Dehuai, who had been purged before the Cultural Revolution for his criticism of the Great Leap Forward, is a rejection of Mao's legacy. In fact, the rehabilitated former director of the Propaganda Department, Lu Dingyi, openly stated in *People's Daily* in March, 1979, that Peng was not wrong in opposing the Great Leap Forward. It was those who opposed Peng who were wrong, and their actions sparked a "leftist" tendency that ended with the fall of the gang of four.² For the most part, however, the criticisms of Mao have been indirect. The play, "The Dismissal of Hai Rui," by the historian Wu Han (performed in 1961 as an historical analogue in support of Peng's criticism of Mao), is playing again in Peking. This kind of rehabilitated work that criticized the Great Leap Forward in the early 1960's is in line with the regime's current effort to develop in a planned, controlled way, as opposed to the erratic mass mobilization of the previous decades. Although the regime's activities are directed at Mao and Maoist policies, they may ultimately undermine the party because the party went along with Mao's purge of Peng and, most important, the party is regarded as Mao's creation.

Perhaps even more subversive to party control is the reprinting of the essays that Wu Han wrote (with his colleagues Deng Tuo and Liao Moxia) in the early 1960's. Both Wu Han and Deng Tuo died because of the persecution they suffered during the Cultural Revolution. Their essays, criticizing the ideological as opposed to the economic course to modernization and encouraging diligent study and professional skills, express the approach of the present regime. But these essays also advocated a degree of pluralism and intellectual participation in political decisions that the

regime has not sanctioned. The current leaders want intellectual ferment, but there is no evidence that, with the possible exception of Deng Xiaoping, they want that ferment carried over into policymaking. Yet among Deng Tuo's essays there are some (like "Show Concern for All Affairs" on the Donglin faction in the Ming Dynasty) that not only demand a degree of autonomy for intellectuals but also recommend the participation of intellectuals in political decision-making. The essay opens with a couplet written by one of the Donglin leaders:

The sound of wind, the sound of rain, the sound of reading, listen to every sound; family affairs, state affairs, affairs under heaven, show concern for all affairs.³

Deng Tuo interpreted this couplet to mean that the Donglin group would "study assiduously on the one hand and show concern for politics on the other and closely integrate the two aspects."⁴ His advice to China's leaders "to seek advice from all sides" and to grasp "a wide range of knowledge"⁵ in policymaking was not practiced by the party before the Cultural Revolution and may not be practiced by the party in the future, despite its expressed intentions.

Perhaps even more significant is the reappearance of writers who were imprisoned in 1957 after the first Hundred Flowers campaign. There are writers like Ding Ling and Ai Qing, associated with the party since the 1930's, who criticized it when they believed it was deviating from its ideals and demanded an autonomous area of creative activity. Their repeated criticisms and refusals to confess might make them heroes in a period that praises courage. Moreover, it was not the gang of four who purged them but the party apparatus, the very group in power today. Ding Ling's statement on her release from prison was directed not against the injustices of the Cultural Revolution but against Communist society as a whole. She is reported to have said, "When there are two people they tell the truth; when there are three, they tell jokes; and when there are four, they tell lies."⁶ The literary works of the 1920's and 1930's that revealed a gloomy, pessimistic, satiric view of society are being republished. Will the regime allow its writers to depict the dark side of life before the Cultural Revolution as well as during the Cultural Revolution or to describe the political prisons that were established by the party?

The regime has also rehabilitated the arch villains of the party, the Western-educated intellectual Hu Shi and the Trotskyite Chen Duxiu, the leaders of China's May Fourth movement and its opening to the West. Chen's early life before he became a Trotskyite is regarded positively. But if students were to study Chen's life, they would find that he had been treated unjustly by the party. Although Hu Shi is still called a reactionary in the political sense, his academic

²Lu Dingyi, "Cherish the Memory of Zhou Enlai," *People's Daily*, March 8, 1979, p. 2.

³Su Shuanbi, "Criticize Yao Wenyuan's 'Comments on the Three Family Village,'" *Red Flag*, February 2, 1979, pp. 41-48, JPRS -073304, p. 81.

⁴*Ibid.*

⁵*Ibid.*

⁶*Asian Wall Street Journal*, June 1, 1979.

achievements are now praised because he sought to use Western methods and Western concepts in his study of Chinese history and literature. Some of Hu's academic works, preserved for 30 years by the curator of the Shanghai Library, are being reprinted. But if students study Hu's life and work in depth, they will learn that he condemned the Chinese Communist party and communism as inapplicable to China. Works of Western writers, particularly the nineteenth century Europeans—Shakespeare, Hugo, Gogol, Turgenev, Heine, Balzac, Ibsen, Tolstoy, Chekov, Dickens, Flaubert, and Pushkin—are being reprinted. Young people, especially, are urged to study them in order to learn writing techniques, structure and character portrayal. But these works present a Western value system and in some cases advocate criticism and even rebellion against the status quo, a spirit the party may find inimical to its effort to reestablish authority and discipline.

TRADITIONAL CULTURE

Traditional Chinese culture is also being revived to correct the distorted, ahistorical approach of the gang of four. In the anti-Confucian campaign of 1973-1974, the gang simplistically treated two thousand years of Chinese history as a conflict between the decaying elements of Confucianism and the rising forces of legalism. They identified Confucius with Zhou Enlai and the first emperor of the Legalist Qin dynasty, Shi Huang, with Mao. One month after the fall of the gang of four, the party called for a reevaluation of Confucianism. Because Zhou Enlai has become a hero, Confucius is being treated positively. As Shi Huang's achievements had been used earlier to praise Mao, his shortcomings are now used to shrink Mao to realistic dimensions. With the regime trying to reconcile differences, Confucius is praised because his concept "ren," benevolence, love of people, was a progressive development in human history. It improved the ruler's relationship with the people and the relationships among the people. Confucius's concern with learning and teaching coincides with the regime's emphasis on education and hard work. The regime is trying to persuade its skilled elite to go back to the classrooms and to the research institutes. Confucius is praised because he taught students of all classes, whereas the gang of four excluded the children of officials and intellectuals. Here again, the resurgence of interest in Confucius might correct the gang of four's distortions of history and might revitalize education. But it might lead readers who study Confucius to appreciate his doctrine that a government does not rule through orders but by acting virtuously and paying attention to ideological

⁷*People's Daily* editorial, "Integrate Moral Encouragement with Material Reward," April 9, 1978, in *Beijing Review*, April 21, 1978, p. 7.

education. This doctrine could lead back to the Maoist emphasis on ideological indoctrination or to the traditional moral code.

Another retrieval from traditional culture is the classic story, *Water Margin*, translated in English as "All Men are Brothers," beloved by all Chinese, literate and non-literate. It was condemned by the gang of four for preaching capitulation to the status quo. Although because of the times in which he lived, its author believed in loyalty to the emperor, it is now pointed out that he depicted characters who defied oppressive rulers. The rehabilitation of *Water Margin* marks an acceptance of a traditional culture that preaches rebellion, and action antithetical to the party's effort to impose greater discipline.

A reinterpretation of marxism is also under way. The gang of four stressed revolutionary consciousness as a precondition for economic development. But Deng's close associate, Hu Qiaomu, using Lenin as his reference in a speech before the State Council in July, 1978, pointed out that the laws of economic development were not only independent of but determined human will and consciousness. In accordance with this line, the Marxist theorist, Yang Xianzhen, who had enunciated these views in the early 1960's, was rehabilitated and made adviser to the party school. Yang is another case of an individual who had been purged not by the gang of four, but by the very leadership in power today. The slogan "do away with bourgeois rights," extolled by the gang of four, is regarded as a misinterpretation of marxism because it negated material incentives and fostered egalitarianism, thus damaging production. As explained in a *People's Daily* editorial of April 9, 1978,

In the period of socialism where socialist products are not in enormous abundance and people's consciousness is not yet greatly enhanced, moral encouragement alone is not enough, and the material interests of the masses must be taken into consideration. The differences in skill and work should be reflected in the pay of workers, with those making outstanding achievements given extra material rewards. Marxism affirms material rewards.⁷

With the regime's announcement of a deficit of more than \$6 billion in part brought on by salary increases, one wonders how long it will continue to stress material incentives as a prerequisite for increased production. Already there is more emphasis on discipline than on material rewards. Workers who were deprived of salary increases for so many years and who are aware of the Marxist approval of material incentives may not accept this latest shift in emphasis passively.

Perhaps the most sensational rehabilitation is the release from prison of three young men who, under the collective name Li Yizhe, wrote a 77-page poster hung in Canton in 1974. The poster condemned China's legal system as unjust and its system of

government as dictatorial. The release of its authors, marked by a mass rally in Canton on February 6, 1979, and the publication of their poster that had been vociferously denounced just five years earlier, is part of the regime's effort to reassure the population that law and democracy will be respected. The poster ostensibly attributed the violence of the Cultural Revolution to Lin Biao's and the gang of four's elimination of legal and democratic rights. But in reality it also condemned the political repression that existed before the Cultural Revolution. Its denunciation of China's rulers as a privileged elite that governs without legal and democratic procedures, its complaint that innocent people are condemned as counterrevolutionaries because there is no clear stipulation as to what constitutes a counterrevolutionary, and its criticism of the manipulation of the media and press because there are no guarantees to safeguard against political interference could be attributed to the party as well as the gang of four. The poster articulates a Western concept of law that for the first time has been published with the party's approval. Yet these concepts implicitly undermine the party's credibility.

On the third anniversary of the Tiananmen demonstration (when thousands of people marched to Tiananmen Square in April, 1976, to pay tribute to Zhou Enlai), the regime announced that that demonstration, which the gang of four had labeled counterrevolutionary, was to be treated as a spontaneous revolutionary movement. The regime insisted that the incident was not instigated by Deng Xiaoping, as the gang charged, nor was it led directly by the party, as the gang implied. The press described in detail what actually happened at Tiananmen—thousands of workers representing state organs, the army, factories, schools, communes and outlying areas—converged on the square wearing black armbands and bearing wreaths, but their peaceful demonstration was violently suppressed by the gang's henchmen. Sixteen teachers of the Chinese language in the second Peking Foreign Language Institute collected poems read at Tiananmen to commemorate Zhou Enlai and mimeographed them to be distributed as underground literature. Today they have been officially published with an introduction written by Hua Guofeng. Some of them symbolically incite rebellion:

Grief-stricken, I hear the baying demons;
I weep and the jackals roar.
In tears I mourn the heroes;
I raise my head, and draw my sword.⁸

There is evidence, however, that the regime fears that approval of the Tiananmen demonstration may lead to similar spontaneous protests. On the third anniversary, a *People's Daily* article explained that although the movement was spontaneous, the comrades who took part were the backbone elements of the party. It charged:

Now some people do not want the party's leadership, but believe in spontaneous action. They think that democracy means that they can do whatever they want. In fact, that is not democracy, but ultra-democracy. . . . Some comrades, whenever they hear talk about developing democracy, would quit giving leadership, do nothing, dare not give guidance and let things take their own course.⁹

THE SOCIAL SCIENCES AND THE SCIENCES

The old Institute of Philosophy and Social Sciences, which criticized the regime both from the liberal and the radical side before the Cultural Revolution, has left the Chinese Academy of Sciences to become the Chinese Academy of Social Sciences (CASS), headed by Hu Qiaomu and several officials purged in the Cultural Revolution. One of its purposes is to bring China's academic thinking into line with the rest of the world after more than 15 years of isolation. The four modernizations are dependent on the modernization of science and technology and on the modernization of the social sciences.¹⁰

CASS must also correct the distortions that the gang of four created in the social sciences and the humanities for their own political purposes. The regime has acknowledged that intellectuals are afraid to resume their work because in the past intellectual differences were treated as political deviations. The Marxist theoretician Zhang Wen stated that "academic and political problems in the sphere of the social sciences are intimately connected, but the two in the final analysis are not one and the same."¹¹ An effort is being made to separate the social sciences from the specific Marxist view of society. At the founding meeting of the Society of Sociology in March, 1979, Hu Qiaomu expressed the hope that sociologists would try to provide some answers to China's social problems. He noted that in this endeavor it was not necessary to look at social problems with a Marxist approach nor to resolve them with a Marxist conclusion: historical materialism provided the basic approach, method and theory for studying society, but could not supersede those branches of science that dealt specifically with various aspects of social phenomena.¹² The need for free discussion was repeatedly emphasized. In the planning meeting for

⁸Translated by Liang-lao Dee in Leo Ou-fan Lee's unpublished paper, "Dissident Trends since the Cultural Revolution."

⁹*People's Daily*, April 5, 1979, p. 1.

¹⁰See Huang Yifeng, "Undertake Research Work in the Four Modernizations to Serve the Four Modernizations," *Yuekan* (Academic Monthly), February, 1979, pp. 7-10, JPRS -073406, p. 4.

¹¹Zhang Wen, "Social Sciences: Hundred School of Thought Contend," *Beijing Review*, April 6, 1979, p. 12.

¹²Hu Qiaomu, "Chinese Society of Sociology Is Founded," *Beijing Review*, March 30, 1979, p. 30.

the social sciences Zhou Yang, now vice president of CASS, declared that

We must support and encourage free discussion and must protect and encourage all differing artistic styles and academic viewpoints. It can be said that without a personal style there is no true art and without independent views there is no true scholarship.¹³

There already is a question, however, as to what degree the regime will allow the social sciences to be independent of the political line and Marxist ideology. There have been contradictory signals. Scholars are encouraged to let a hundred schools contend, but most articles emphasize the need for diversity in the sciences rather than in the social sciences. There are clearer signals on science and technology. In his speech at the opening of the National Science Conference in March, 1978, Deng Xiaoping unequivocally supported basic research. Deng now calls intellectuals part of the proletariat. He grants that there are scientists who are influenced by bourgeois ideology, but as long as they are not against the party and socialism, their special skills should be used. Even more significant, he calls science and technology the most important elements in achieving China's modernization.¹⁴

The sciences, therefore, are separated more sharply from politics than the blurred separation in the social sciences. In scientific work there are many areas that the political leaders do not understand. Deng recommends that the director and deputy director of the research institutes under CASS be given a free hand in scientific and technical work and that the party listen to these experts in evaluating scientific personnel and scientific research. In contrast to the gang of four's isolating China from outside contact, Deng insists that China learn from the most advanced science and technology of other nations. "Independence," he asserts, "does not mean shutting the door on the world nor does self-reliance mean blind opposition to everything foreign. Science and technology are a kind of wealth created in common by all mankind."¹⁵

Whereas the nineteenth century self-strengtheners like Li Hungzang and Zeng Guofan were condemned in the Cultural Revolution for betraying China's national interests, they are now praised because "their advocacy of modern industrialization and modern technology from Western capitalist countries was beneficial to the development of society's productivity and China's capitalism."¹⁶ The homage to

science resonates with the May Fourth movement's emphasis on science, technology and Western learning as the answer to China's problems and the key to its modernization. These expectations were not fulfilled in the early twentieth century, and it is unlikely that they will be fulfilled now. China's recent past has shown that there is no one panacea to its problems. An already cynical population may become even more cynical when it finds that science and technology do not quickly bring the results it was led to expect.

THE FUTURE

The question is how far beyond ridding itself of the "pernicious influence" of Lin Biao and the gang of four the regime will go to allay the fears of the intellectuals and win their cooperation. Will it continue to risk continued movement to a more open society or will it clamp down on the forces let loose by the current relaxation when they threaten party control? Past history suggests that this relaxation, like the others, will be followed by suppression. As before, the current liberalization arises from political disagreements and pressing needs, not from the institutional and legal guarantees that protect the intellectual. Depending on the political configurations, this relative liberalization can be rescinded as quickly as it was initiated.

Still, history never exactly repeats itself. There are new factors. Mao, who had a particular animus against intellectuals and a skilled elite and the power to suppress them, is gone. The cost of continued suppression in terms of talent and impairment is accelerating. As a network of scientists and engineers indispensable to China's modernization emerges, its research centers may be allowed increasing autonomy. This network might thus in time become (as it has in the Soviet Union) a quasi-independent elite that can influence political decisions on relevant issues. The economists at CASS had input into Hu Qiaomu's speech before the State Council on policy and factual matters.

Moreover, for the first time since 1949, China's political leaders and its intellectual elite are being exposed to Western methodology and to the concepts behind them. Today, the process of myth deflation and regeneration of critical judgment has gone so far that it will be difficult to stop. The population has been exposed to a greater variety of symbols, models

(Continued on page 86)

¹³Zhou Yang, *Zhexue Yanjin* [Philosophical Research], October 25, 1978, pp. 2-11, JPRS -072912, p. 100.

¹⁴Deng Xiaoping, *Beijing Review*, March 24, 1978, p. 11.

¹⁵*Ibid.*, p. 12.

¹⁶Li Kan, "Feudalistic Diehards in Modern Chinese History," *Lishi Yanjiu* [Historical Research], November 15, 1978, pp. 3-18, JPRS -073179, p. 7.

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BOOK REVIEWS

ON CHINA

A HISTORY OF CHINESE POLITICAL THOUGHT. Vol. 1. From the Beginnings to the Sixth Century A.D. By *Kung-chuan Hsiao*, translated by *F.W. Mote*. (Princeton, New Jersey: Princeton University Press, 1979. 778 pages, glossary, bibliography and index. \$37.50, cloth; \$16.50, paper.)

This history comes from the Princeton Library of Asian translations, which aims "to publish in authoritative English editions major classical and contemporary literature and scholarship from Asia." The translation has had the assistance of the author.

The distant origins of Chinese history "can be traced back four thousand years or more." The author begins his history of political thought with the period of the Chou dynasty after about 770 B.C. He believes that rapid changes in the structure of the society and "the opportune appearance of some great thinkers," among them Confucius, contributed heavily to the increase in the volume of political theory. For a variety of reasons, scholars became independent and were able freely to develop their views; the author calls this era of the late Chou dynasty the Golden Age in China's intellectual history and the proper place to begin the present volume.

The author and translator have emended inadvertent errors found in the earlier Chinese edition, completed during the 1937-1945 period of war. Kung-chuan Hsiao feels that all the schools of political thought after Confucius (born 551 B.C.) were in the main following the "lines of development" laid down by Confucius and other theorists of his period and that radical new ideas did not enter Chinese political theory until the opening of sea routes and the "introduction to Western learning" that followed.

The author divides the history of political thought into four periods: the period of creativity, from the birth of Confucius to the unification of the first Ch'in Emperor in 221 B.C.; a period of continuation from Ch'in to the Han and Sung and Yuan dynasties, 227 B.C. to 1367 A.D.; a period of change from Ming to late Ch'ing, 1368 to 1898; and the final period of fruition from Sun Yat Sen's Three Principles of the People in 1911 to 1945.

Hsiao writes in great detail about the various founders of schools of political thought to the sixth century A.D., which still leaves the reader some 1,400 years from current history; thus the succeeding volumes of this detailed work will be of great

value to the scholar of Chinese political history and thought.

A most excellent and detailed index, glossary and bibliography are included as an aid to scholars; the footnotes are extensive and helpful in locating sources or explaining obscure references, and for a work of such detail, the writing is readable and understandable. It is to be hoped that the succeeding volumes will follow shortly. O.E.S.

CHINA, THE UNITED NATIONS AND WORLD ORDER. By *Samuel S. Kim*. (Princeton, New Jersey: Princeton University Press, 1979. 581 pages, appendices, bibliography, interview schedule and index. \$32.50, cloth; \$12.50, paper.)

Samuel Kim analyzes China's image and political strategy toward world order as reflected in Chinese behavior in the United Nations; he also makes use of interviews with U.N. delegates and international civil servants to help clarify his views.

The author draws on China's policy and debate statements as well as the voting, consultative, financial and budgetary behavior that has appeared in the almost 6 years since China's admission to the United Nations. By examining the facts now available, the author intends to clarify the "emerging pattern and strategy of Chinese global policy and the role China is playing . . ."

Traditional Chinese theory about world order held that China was the center of human civilization; this image of China led to the belief that a *Pax Sinica* existed "which all non-Chinese states and peoples had to accept if they were to enter into any relations with China." This in turn led to a view in which the image of what the world order should be and what it actually was became confused, and reality virtually disappeared from Chinese thinking.

With the rise of Chairman Mao Zedong, Chinese foreign policy became the reflection of the thought of Mao. The author believes that the Chinese-Maoist image of world order, stressing concepts of "just and unjust wars and of revolutionary and counter-revolutionary violence, shows that Chinese values are 'oriented toward 'world justice' rather than toward 'world order.' " The Maoist image defines "world order" in terms of its own conception of justice "rather than in terms of peace." Mao believed that "the old structures of the [present] exploitative system . . . should give way to new ones if the populist needs of the global underdog were to be met."

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CURRENT DOCUMENTS

Pinyin: Chinese-English Spellings Revised

On January 1, 1979, the government of the Chinese People's Republic adopted the pinyin system of transcription from the Chinese to the English alphabet, for use in the official New China News Agency and other publications sending news reports abroad. Pinyin, first introduced by the Chinese government in 1958, replaces the Wade-Giles system of transcription in use since the 1860's. A list of the names of high-level Chinese officials and Chinese geographical names follows in pinyin:

GOVERNMENT AND PARTY OFFICIALS

Chairman

of the Central Committee

of the Chinese Communist Party

Hua Guofeng (Hua Kuo-feng)

Deputy Chairmen

Chen Yun (Chen Yun)

Deng Xiaoping (Teng Hsiao-ping)

Li Xiannian (Li Hsien-nien)

Wang Dongxing (Wang Tung-hsing)

Ye Jianying (Yeh Chien-ying)

Members of the Politburo

Chen Xilian (Chen Hsi-lien)

Chen Yonggui (Chen Yung-kuei)

Chen Yun (Chen Yun)

Deng Xiaoping (Teng Hsiao-ping)

Deng Yingchao (Teng Ying-chao)

Fang Yi (Fang Yi)

Geng Biao (Keng Piao)

Hu Yaobang (Hu Yao-pang)

Hua Guofeng (Hua Kuo-feng)

Ji Dengkui (Chi Teng-kuei)

Li Desheng (Li Teh-sheng)

Li Xiannian (Li Hsien-nien)

Liu Bocheng (Liu Po-cheng)

Ni Zhifu (Ni Chih-fu)

Nie Rongzhen (Nieh Jung-chen)

Peng Chong (Peng Chung)

Su Zhenhua (Su Chen-hua)

Ulanhu (Ulanfu)

Wang Dongxing (Wang Tung-hsing)

Wang Zhen (Wang Chen)

Wei Guoqing (Wei Kuo-ching)

Wu De (Wu Teh)

Xu Shiyu (Hsu Shih-yu)

Xu Xiangqian (Hsu Hsiang-chien)

Ye Jianying (Yeh Chien-ying)

Yu Qiuli (Yu Chiu-li)

Zhang Tingfa (Chang Ting-fa)

Alternate Members

Chen Muhua (Chen Mu-hua)

Seypidin (Saifudin)

Zhao Ziyang (Chao Tzu-yang)

GEOGRAPHICAL NAMES

Following are names of municipalities, provinces, autonomous regions and well-known cities spelled in the Pinyin system. In parentheses, for reference, are the conventional forms.

Municipalities

Beijing (Peking)

Shanghai (Shanghai)

Tianjin (Tientsin)

Provinces and selected cities

Anhui (Anhwei)

Hefei (Hofei)

Bengbu (Pengpu)

Fujian (Fukien)

Fuzhou (Foochow)

Xiamen (Amoy)

Gansu (Kansu)

Lanzhou (Lanchow)

Guangdong (Kwangtung)

Guangzhou (Canton)

Shantou (Swatow)

Guizhou (Kweichow)

Guiyang (Kweiyang)

Zunyi (Tsunyi)

Hebei (Hopei)

Shijiazhuang (Shihkiachwang)

Tangshan (Tangshan)

Heilongjiang (Heilungkiang)

Harbin (Harbin)

Daqing Oilfield (Taching)

Qiqihar (Tsitsihar)

Henan (Honan)

Zhengzhou (Chengchow)

Luoyang (Loyang)

Kaifeng (Kaifeng)

Hubei (Hupeh)

Wuhan (Wuhan)

Hunan (Hunan)

Changsha (Changsha)

Jiangsu (Kiangsu)
Nanjing (Nanking)
Suzhou (Soochow)
Wuxi (Wusi)
Jiangxi (Kiangsi)
Nanchang (Nanchang)
Jiujiang (Kiukiang)
Jilin (Kirin)
Changchun (Changchun)
Liaoning (Liaoning)
Shenyang (Shenyang)
Anshan (Anshan)
Luda (Luta)
Qinghai (Chinghai)
Xining (Sining)
Shaanxi (Shensi)
Xian (Sian)
Yanan (Yenan)
Shandong (Shantung)
Jinan (Tsinan)
Qingdao (Tsingtao)
Yantai (Yentai)
Shanxi (Shansi)
Taiyuan (Taiyuan)
Sichuan (Szechwan)

Chengdu (Chengtu)
Chongqing (Chungking)
Yunnan (Yunnan)
Kunming (Kunming)
Dali (Tali)
Zhejiang (Chekiang)
Hangzhou (Hangchow)

Autonomous regions

Guangxi Zhuang (Kwangsi Chuang)
Nanning (Nanning)
Guilin (Kweilin)
Nei Monggol (Inner Mongolia)
Hohhot (Huhehot)
Baotou (Paotow)
Ningxia Hui (Ningsia Hui)
Yinchuan (Yinchwan)
Xinjiang Uygur (Sinkiang Uighur)
Urumqi (Urumchi)
Xizang (Tibet)
Lhasa (Lhasa)

U.S.—China Joint Communiqué Establishing Diplomatic Relations

On December 15, 1978, President Jimmy Carter, in Washington, D.C., and Chinese Chairman Hua Guofeng, in Beijing, released the text of a joint communiqué announcing the normalization of diplomatic relations between the United States and the People's Republic of China. The texts of the President's address to the nation, the joint communiqué of December 15, and the United States announcement of the termination of diplomatic relations with Taiwan and the mutual defense treaty with Taiwan follow in full:

PRESIDENT'S ADDRESS

I would like to read a joint communiqué which is being simultaneously issued in Peking at this very moment by the leaders of the People's Republic of China.

Yesterday, our country and the People's Republic of China reached this final historic agreement. On January 1, 1979, a little more than 2 weeks from now, our two governments will implement full normalization of diplomatic relations.

As a nation of gifted people who comprise about one-fourth of the total population of the earth, China plays, already, an important role in world affairs, a role that can only grow more important in the years ahead.

We do not undertake this important step for transient tactical or expedient reasons. In recognizing the People's Republic of China, that it is the single government of China, we are recognizing simple

reality. But far more is involved in this decision than just the recognition of a fact.

Before the estrangement of recent decades, the American and the Chinese people had a long history of friendship. We've already begun to rebuild some of those previous ties. Now our rapidly expanding relationship requires the kind of structure that only full diplomatic relations will make possible.

The change that I'm announcing tonight will be of great long-term benefit to the peoples of both our country and China—and, I believe, to all the peoples of the world. Normalization—and the expanded commercial and cultural relations that it will bring—will contribute to the well-being of our own nation, to our own national interest, and it will also enhance the stability of Asia. These more positive relations with China can beneficially affect the world in which we live and the world in which our children will live.

We have already begun to inform our allies and

other nations and the members of the Congress of the details of our intended action. But I wish also tonight to convey a special message to the people of Taiwan—I have already communicated with the leaders in Taiwan—with whom the American people have had and will have extensive, close, and friendly relations. This is important between our two peoples.

As the United States asserted in the Shanghai communiqué of 1972, issued on President Nixon's historic visit, we will continue to have an interest in the peaceful resolution of the Taiwan issue. I have paid special attention to insuring that normalization of relations between our country and the People's Republic will not jeopardize the well-being of the people of Taiwan. The people of our country will maintain our current commercial, cultural, trade, and other relations with Taiwan through nongovernmental means. Many other countries in the world are already successfully doing this.

These decisions and these actions open a new and important chapter in our country's history and also in world affairs.

To strengthen and to expedite the benefits of this new relationship between China and the United States, I am pleased to announce that Vice Premier Teng has accepted my invitation and will visit Washington at the end of January. His visit will give our governments the opportunity to consult with each other on global issues and to begin working together to enhance the cause of world peace.

These events are the final result of long and serious negotiations begun by President Nixon in 1972 and continued under the leadership of President Ford. The results bear witness to the steady, determined, bipartisan effort of our own country to build a world in which peace will be the goal and the responsibility of all nations.

The normalization of relations between the United States and China has no other purpose than this: the advancement of peace. It is in this spirit, at this season of peace, that I take special pride in sharing this good news with you tonight.

JOINT COMMUNIQUE, DECEMBER 15, 1978

JOINT COMMUNIQUE ON THE ESTABLISHMENT OF DIPLOMATIC RELATIONS BETWEEN THE UNITED STATES OF AMERICA AND THE PEOPLE'S REPUBLIC OF CHINA JANUARY 1, 1979

The United States of America and the People's Republic of China have agreed to recognize each other and to establish diplomatic relations as of January 1, 1979.

*For the text, see *Current History*, September, 1972, p. 131 ff.

The United States of America recognizes the government of the People's Republic of China as the sole legal government of China. Within this context, the people of the United States will maintain cultural, commercial, and other unofficial relations with the people of Taiwan.

The United States of America and the People's Republic of China reaffirm the principles agreed on by the two sides in the Shanghai Communiqué* and emphasize once again that:

- Both wish to reduce the danger of international military conflict.
- Neither should seek hegemony in the Asia-Pacific region or in any other region of the world and each is opposed to efforts by any other country or group of countries to establish such hegemony.
- Neither is prepared to negotiate on behalf of any third party or to enter into agreements or understandings with the other directed at other states.
- The government of the United States of America acknowledges the Chinese position that there is but one China and Taiwan is part of China.
- Both believe that normalization of Sino-American relations is not only in the interest of the Chinese and American peoples but also contributes to the cause of peace in Asia and the world.

The United States of America and the People's Republic of China will exchange ambassadors and establish embassies on March 1, 1979.

U.S. STATEMENT ON TAIWAN

As of January 1, 1979, the United States of America recognizes the People's Republic of China as the sole legal government of China. On the same date, the People's Republic of China accords similar recognition to the United States of America. The United States thereby establishes diplomatic relations with the People's Republic of China.

On that same date, January 1, 1979, the United States of America will notify Taiwan that it is terminating diplomatic relations and that the Mutual Defense Treaty between the United States and the Republic of China is being terminated in accordance with the provisions of the Treaty. The United States also states that it will be withdrawing its remaining military personnel from Taiwan within four months.

In the future, the American people and the people of Taiwan will maintain commercial, cultural, and other relations without official government representation and without diplomatic relations.

The Administration will seek adjustments to our laws and regulations to permit the maintenance of commercial, cultural, and other nongovernmental relationships in the new circumstances that will exist after normalization.

The United States is confident that the people of
(Continued on page 86)

CHINA AND ASIA: THE YEAR OF THE CHINA-VIETNAM WAR

(Continued from page 56)

that China had agreed to preserve "the existing tranquility" on the border.¹⁸

The key trouble-spot in southwest Asia was the Pakistani-Afghan border. Guerrilla warfare in Afghanistan against the Soviet-aided Taraki government appeared strong in mid-June, 1979. Moscow charged that China was using the Karakorum Highway to transport arms and propaganda materials, a charge that China called a diversion from Soviet efforts to secure control in Kabul. Afghanistan and China have a small common border, but the more important question to China is whether Soviet freedom of access will be consolidated. An Afghan-Soviet friendship treaty signed in December, 1978, encouraged China to regard Afghanistan as she regarded Vietnam. Thus China charged in April, 1979, that

the Soviet Union has intensified its infiltration and expansion into the west Asian region. It has been airlifting weapons to Afghanistan on a crash basis and sending large numbers of military advisers there.¹⁹

China sought steady contacts with the South Asian states, punctuated by exchanges of visits and economic transactions. China's long-standing trading relations with Sri Lanka were sustained. Political bureau member Geng Biao visited Sri Lanka and Pakistan in

¹⁸*The New York Times*, February 22, 1979. Vajpayee was later quoted as saying that efforts toward normalization with China were set back by the Vietnam invasion. He cited specifically a Chinese statement equating the 1962 Sino-Indian Border War with the expedition to "punish" Vietnam for border violations. "Old memories have been revived which create hurdles in the path of normalization." *The New York Times*, March 17, 1979.

¹⁹The text continues: "At the same time, it has attacked the United States, Britain, West Germany, Pakistan, Iran, Egypt and other countries for interfering in Afghanistan's affairs and vilified China for disturbing the situation in Afghanistan. It has openly clamored that it will intervene according to the Soviet-Afghan treaty, attempting to create a pretext for the Soviet Union to interfere directly in Afghanistan's internal affairs, threaten Pakistan and Iran and aggravate the turmoil and unstable situation around the Persian Gulf so that the Soviet Union can take the opportunity to fish in troubled waters." Beijing Radio, April 25, 1979.

²⁰China seized the more northerly Xisha Islands from South Vietnamese forces in 1974. But North Vietnamese troops moved onto the Nansha Islands in the closing days of the Vietnam War. There are several good reasons one or more of which may have persuaded China not to seize the Nansha in 1979. She was insisting China sought "not one inch of territory." There were Soviet vessels in the vicinity. She may have been respecting understandings with Vietnam to settle that issue by negotiation. But it remains true that her naval forces are not readily deployed so far from major bases on Hainan Island, near the China coast.

June, 1978. China's fourth-ranked leader Li Xian-nian, visited Bangladesh in March, 1978; and in May, 1979, receiving a special Bangladesh envoy, Hua Guofeng declared that "relations between China and Bangladesh are fine. We have a common language on many international issues. The interests of our two countries coincide." China has also endorsed the idea of Nepal as a zone of peace and in May, 1978, at a banquet in Beijing in honor of the king and queen of Nepal, Hua Guofeng said, "Our two countries are true friends who can trust each other."

CONCLUSION

Every state's foreign relations rise out of economic and security needs; China is no exception. But the understanding of those needs varies from state to state and from time to time. Today, China's Asian relations reflect three views: China wants time to move to a modern economy; she insists on the attributes of sovereignty and will run risks, carefully calculated, to ensure respect; and she is afraid that the Soviet Union will maneuver toward a longer-term political and economic environment in Asia that would harm China's interests by restricting her scope.

For most Asian states, this means that China is a willing partner in trade, and ready to plead her view of the world. China is not perceived as an aggressive military power, despite her invasion of Vietnam. China's force structure, nuclear weapons aside, is defensive; she has an ill-equipped land force and air-supported naval capabilities selected for coastal defense. Significantly, China did not attempt to enforce her Nansha Island claims against Vietnam in February, 1979.²⁰

In discussing a new international economic order, China stresses the importance of economic relations among third world states. One barometer of her seriousness will be the extent to which she encourages economic ties with states like India and Malaysia. Her economic priority is obtaining modern technology: for that purpose Japan is her prime Asian source. In the longer run, however, China and Japan will compete for Asian commodities and Asian markets. How they manage that relationship and how they handle their common fear that Soviet ambitions in the region are unfriendly will largely determine the stability and level of development in Asia at the turn of the century.

TAIWAN'S FUTURE

(Continued from page 73)

direct benefit to Taiwan in the current oil shortage; Saudi Arabia and Kuwait, the largest suppliers of oil for Taiwan, both continue to maintain diplomatic relations. Nevertheless, while cordial relations with developing countries are gratifying and beneficial, the

government must explore new ways of carrying on relations with major powers on a scale that can determine future growth and stability.

The spectacular growth of the economy and the appropriations for huge construction projects raise the question of inflation. Taiwan cannot avoid the effects of worldwide inflation. Price control and other related measures have managed to keep the inflation to six to eight percent, but the rate is expected to reach or exceed 10 percent in 1979. Although inflation is due in large measure to the high prices of imports, a campaign has been launched to curtail extravagant consumerism and encourage savings. As far as the economy is concerned, the government has announced a policy to move from light industries to heavy industries like the metal and petro-chemical industries that involve the intensive utilization of science and technology. Agriculture and rural development have not been neglected. In May, the government announced an additional appropriation of the equivalent of almost \$100 million for agriculture and the modernization of rural life.

There has been a constant elevation of the standard of living; wages and family income have been on the rise. Parks, museums, theatres, and music halls draw large crowds seeking fun and recreation. This is the good life for millions of people in Taiwan. A visitor does not have to look hard to see evidences of good living. People dress well when they go about their daily activities, even when they go to the parks and recreational centers for their daily exercise at the crack of dawn. There is no organized exercise program, no set regimen for the thousands of people who swarm the parks and the hillsides in pursuit of physical culture, which seems to have become a fad. A small group may be practicing the T'ai-Chi "boxing"; an old lady may choose to stay behind a tree bending, waving and kicking to exercise her muscles; younger people may be playing badminton; others may just sit or ramble to enjoy the fresh air of early morning. Electricity, refrigerators, running water, bicycles and motorcycles are commonplace. There is a telephone for every 8 persons and more than 3 million television sets for the population of 17 million.

A discussion of the internal situation in Taiwan would be incomplete without mention of the political factor. Stability is not only a matter of economics; it is also a political condition. Government leaders seem to realize this. Since he assumed leadership, President Chiang Ching-kuo has made a special effort to recruit into government service promising young men, including "Taiwanese" who are the descendants of migrants from China several generations ago.* Fortunately, the barrier between the native Taiwanese and the main-

landers has been slowly and steadily decreasing, especially among the young generation. The school system, the national language (Mandarin) and universal military service have proved to be effective unifiers.

President Chiang Ching-kuo enjoys personal popularity. The high-echelon leaders of the government are capable and dedicated public servants whose talents, vision and wholehearted devotion have made Taiwan strong. Most people in Taiwan support the government, although a few frustrated and discontented individuals may express themselves in ways that are more emotional than constructive while an even smaller number may incite disruptive activities. A distinction must be made between dissent and rebellion. It is encouraging to note that recent years have witnessed a trend toward liberalization to permit dissent in speech and writing. Taiwan's newspapers and journals are expressing ideas that differ from official views and are frankly critical of government policies. There is more debate on controversial issues.

Given reasonable assurance of security, Taiwan will continue to develop its economy, bring prosperity to its population, and attract foreign loans and investments. It is hoped that Taiwan's leaders will apply their vision and resourcefulness to politics, and will institute political reforms to match and consolidate Taiwan's economic, educational and social progress.

INDUSTRIAL MODERNIZATION IN CHINA

(Continued from page 65)

industrial centers to train managerial personnel. It is expected that efficient industrial management could enhance industrial productivity with a minimal infusion of capital.²⁰

Measures that will probably play an important role in China's policy of making capital-good imports self financing include:

Compensation agreements. Under this type of agreement, a foreign supplier of capital goods is paid for in its product. This arrangement is feasible if the product has a ready export market. Oil companies might be receptive to such a trade agreement, to exchange drilling technology for crude oil, as long as there is an excess demand for crude oil in the world market. If, however, the export market of the product is highly competitive (e.g., crude steel), implementing compensation agreements is difficult.

Barter agreements. Under this type of agreement, capital goods imports are financed by exports that

*The incumbent Vice President, the Vice Premier, the governor of Taiwan province and many lower-rank officials are native-born Taiwanese.

²⁰See particularly Hu Chiao-mu, "Observe Economic Laws, Speed Up the Four Modernizations," *Peking Review*, November 10, 1978, pp. 7-12; November 17, 1978, pp. 15-23; and November 24, 1978, pp. 13-21.

may or may not be a product of the imported capital goods.²¹ Finding a willing supplier of capital goods and suitable commodities for the exchange has often been an impediment to implementing such agreements.

Joint venture. This arrangement requires the supplier of capital goods to share the risk of the venture for which the capital goods are imported. Accepting a joint venture, however, represents a drastic shift from China's traditional policy, which prohibited direct foreign participation in the nation's economic development. A thorough review of the policy and new foreign investment laws will be necessary before the joint venture arrangement comes into full operation. ■

²¹A recent example is the barter agreement under which Control Data Corporation sells computers to East European countries with an understanding that CDC may purchase art books and other exports from the importing countries to offset a part of the computer purchase. See *Wall Street Journal*, May 21, 1979.

AGRICULTURAL MODERNIZATION IN CHINA

(Continued from page 70)

expansion of tube wells significantly increased the irrigated farmland and contributed to the rise in wheat output during the last 15 years.

Outside the North China Plain, especially in the more mountainous regions in many parts of interior China, groundwater supplies are less abundant and less accessible, and the usefulness of tube wells is limited. The introduction of spray irrigation to these areas, developed in China only recently, has offered a solution. The introduction of this technique has been delayed until fuel-efficient pumps, tubing and nozzles become available at modest costs. Before the expansion of tube wells, the laggard performance of the North China Plain acted as a drag on the overall performance of the agricultural sector. The development of spray irrigation may eventually mean that large areas in north and interior China are no longer handicaps to the overall performance of the agricultural sector.¹⁶

The development of new seed varieties has been an important factor in increasing grains yields in China. Because of limitations in the plant hybridization program in the 1950's, there were few immediate payoffs. Between 1956 and 1958, three varieties of high-yielding dwarf rice seeds were developed. The distribution of these and other dwarf rice varieties for full production was begun in 1964 and thereafter expanded rapidly. Today, they account for 80 percent of the total rice acreage. In yield and other characteristics, these varieties are the equal of the IR-8 dwarf

rice developed in the Philippines (1966) that started the "green revolution" elsewhere in Asia.

Along with chemical fertilizer, these seeds accounted for the large increase in rice production in the south during the 1960's. Wheat breeding also emphasized the development of high-yield semi-dwarfs, mainly winter wheats. In the mid 1960's, the new seeds rapidly came into large scale use. Their extension in the wheat region has been coordinated with the expansion of irrigation and chemical fertilizer supply. The development of hybrid maize seeds was also successful in this period.

Since the initial large gain in rice production because of the introduction of dwarf rice, the production performance of the rice-producing areas has fallen behind that of the wheat-maize areas. But a new breakthrough in the rice seed breeding came with the recent successful development of Male-Sterile F1 hybrids of rice. Based on its 1977 use in Hunan Province, the estimated average yield gain was 0.94 tons per hectare in fields using this variety.

The strength of the Chinese seed improvement program has been the speed of her seed selection and extension systems. In most breeding programs outside the tropics, the time lag between the first-cross and large-scale production is eight to ten years. The Chinese system permits the reduction of the time lag by several years. However, because China's overriding breeding objectives are early maturity and high yield, seed breeders tend to neglect insect and disease resistance. Early maturity makes it possible to increase the extent of multiple-cropping, and the rapid and widespread extension of new varieties narrows the genetic base. But the combination of multiple-cropping and a more homogenous genetic base may expose the crops to serious damage from pests. Thus increasing amounts of pesticides and fungicides must be applied, and seed breeders draw on foreign sources of pesticides. Although the Chinese seed improvement program has been based on a high-risk strategy, it has so far paid off.¹⁷

CONCLUSION

China's program for attaining its 1985 goals seems to be comprehensive, and technically and economically sound. It deals simultaneously with the problem of accelerating the laggard regions and crops and the problem of expanding agricultural potential. For the most part, potential sources of growth have been correctly identified. The open question is whether China can mobilize and organize her resources in the next few years to supply the needed inputs for agriculture.

In the future, Chinese yields of rice and other crops are likely to surpass the levels that Japan reached in the postwar years and that South Korea has attained since the mid-1960's. Given the new measures to

¹⁶Wiens, *op. cit.*, pp. 687-93.

¹⁷Wiens, *op. cit.*, pp. 674-81.

stimulate peasant incentive, the grain target of 400 million metric tons may be met, if all the inputs planned are available and if the weather is very favorable in 1985. Nevertheless, the goal of 400 million metric tons is at the upper limit of what can be achieved through the utilization of all available means of production. With average weather and some of the inputs available below the planned level, grain output could be around 380-385 million metric tons. It is possible that Chinese planners may scale down the grain output target and release more resources for soybeans, poultry, livestock products, and other cash crops, to make the targeted growth rate of four to five percent for total agricultural output more attainable. This will require the increased import of food and feed grains and increased export of high value-added agricultural products. The commitments China has already made to continue large imports of grain from Australia, Canada and the United States over the next few years are in line with such a modified approach to agricultural production. ■

CHINA'S WATER RESOURCES

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hydro stations.²³ The total number of these small stations—the average installed capacity is around 40 kilowatts, but the modal size appears to be half the mean—has grown very quickly. There were some 50,000 small and medium-sized installations in 1973, over 60,000 in 1975 and nearly 87,000 by the end of 1978. They have been built in every province and region but naturally, they are concentrated in the rainy southern provinces and, above all, in Guangdong. Although their load factor is far lower than that of the large projects, small hydro stations now deliver about one-third of China's water-generated power.

During the past three decades, Chinese peasants and hydraulic engineers have achieved no mean results in harnessing and exploiting the country's waters, but formidable tasks lie ahead. Half of China's farmland is now irrigated and this share must be extended as far as possible to sustain the planned 4 to 5 percent increase in agricultural production. Wasteful irrigation practices should be eliminated, and modern efficient irrigation technologies—well-fed sprinklers in the moister areas and seepage from underground pipes in the dry interior—must be introduced on a large scale. More reservoirs and large river and lake pumping stations will have to be built in the drought-prone North China Plain. Control of the silting in the Huang He basin remains an intractable

²³For more details on small hydro stations see Vaclav Smil, "Intermediate Energy Technology in China," *Bull. At. Sci.*, vol. 33, no. 2 (February, 1977), pp. 25-31.

²⁴NCNA in English, May 31, 1978.

problem that demands accelerated massive afforestation, grassing, terracing and small reservoir construction, as well as changes in farming techniques.

And there is a fast-spreading problem, especially troublesome for a nation counting on fresh-water fish and other aquatic products for an important part of its nutrition: industrial, agricultural and urban water pollution. The rapid expansion of mining, metallurgical and chemical industries and the growing use of pesticides and untreated urban wastes have seriously contaminated long sections of major rivers and the pollution of Bo Hai, China's largest inland sea, is becoming serious.²⁴ Some factories along the Li Jiang in Guilin have been closed to prevent the further despoliation of one of China's most picturesque landscapes. One can only hope that most of China's rivers will be spared the fate of the waste canals that mark the advance of injurious modernization.

After all, as the master of the *Mustard Seed Garden Manual of Painting* asks, "Is not water, whether trickling, flowing, spraying, foaming, splashing, or in rivers or oceans, the very blood and marrow of Heaven and Earth?" ■

THE IMPLICATIONS OF CHINA'S LIBERALIZATION

(Continued from page 78)

and values than at any other time since 1949. Thousands of people, not just a small elite, have witnessed and read about public protests. Furthermore, in the Cultural Revolution and in this period of inadvertent criticism of the party, the party has lost its mystique and its role as the sole source of infallible knowledge. If and when alternative views and examples threaten the party's authority, it will be far more difficult to reimpose a monolithic view of reality. If alternative views survive long enough and gain strength, it could prove virtually impossible to eradicate them. ■

U.S.-CHINA JOINT COMMUNIQUE ESTABLISHING DIPLOMATIC RELATIONS

(Continued from page 82)

Taiwan face a peaceful and prosperous future. The United States continues to have an interest in the peaceful resolution of the Taiwan issue and expects that the Taiwan issue will be settled peacefully by the Chinese themselves.

The United States believes that the establishment of diplomatic relations with the People's Republic will contribute to the welfare of the American people, to the stability of Asia where the United States has major security and economic interests, and to the peace of the entire world. ■

CHINA'S ECONOMIC OUTREACH

(Continued from page 52)

worth of arms from Italy.¹⁸ Moscow has made its displeasure known to both London and Rome.

Despite China's strong interest in the purchase of arms in Europe, its commitment to military modernization through the importation of hardware is apparently limited. The Chinese leadership argues that the modernization of its defense capability must ultimately be based on the development of China's own industrial infrastructure. Thus, while more military contracts are likely, particularly to replace equipment lost in the punitive action in Vietnam, the bulk of China's imports of plants and equipment is likely to be civilian, not military.

Thus, Chinese negotiations for purchases in Europe were by no means confined to military items. During 1978, China signed trade agreements with France, Britain, Canada and Sweden, and negotiated credit arrangements with Paris and London totaling \$17 billion. Major deals under negotiation include the purchase of one and possibly two Westinghouse nuclear reactors produced under license in France, a \$500-million contract with a West German concern to build three chemical plants in China and a contract with two French firms to explore oil resources in the Yellow Sea.¹⁹

ECONOMIC RELATIONS WITH THE U.S.

By far the most significant event in Sino-American economic relations during the last twelve months is the normalization of diplomatic relations on January 1, 1979, and the visit of Vice Premier Deng Xiaoping to the United States later that month. The Chinese had made the expansion of Sino-American trade contingent upon the establishment of official ties. More important, however, the establishment of full diplomatic relations opened the way for a series of negotiations on economic matters, all but one of which were successfully resolved during the spring months.

The assets "frozen" by Beijing and Washington at the time of the Korean War were negotiated first. Some \$197 million in assets belonging to American individuals, organizations and corporations had been impounded by the Chinese government, and the United States government had impounded some \$80.5 million. Treasury Secretary Michael Blumenthal negotiated this question with the Chinese in Beijing in

February. Pursuant to the agreement initialed at the conclusion of these negotiations, the Chinese government agreed to make cash payments to the United States government totaling \$80.5 million over the next five years. In exchange, the United States will release Chinese assets held in this country. According to the terms of this settlement, American claimants will receive 41 cents on each dollar of their adjudicated claim.

In May, Commerce Secretary Juanita Kreps negotiated a trade agreement with the Chinese that was signed early in July. This agreement, which must be ratified by Congress before it takes effect, will extend most-favored-nation (MFN) status to China, substantially reducing the tariffs now charged on goods imported into this country from China. President Jimmy Carter's administration has indicated its preference for granting MFN status to the Soviet Union and China simultaneously and initially intended to submit trade agreements with Moscow and Beijing to Congress together. Problems with the second Strategic Arms Limitation Treaty (SALT II) and with the 1973 Soviet agreement may make this impossible. Considering the agreement with China, Congress must decide whether Beijing meets the requirements of the Jackson-Vanik amendment to the Trade Act (precluding the extension of MFN status to states that restrict the emigration of their citizens).

Still to be resolved is an orderly trade agreement on the importation of Chinese textiles into the United States, although negotiations were begun on this agreement after the Kreps trip.

In 1978, two-way trade with China exceeded \$1.1 billion. United States Commerce Department estimates in the early spring suggested that Chinese imports from the United States, Europe and Japan will total \$120 billion to \$150 billion over the next six years. The United States share of that figure is likely to be about 10 percent.²⁰ Unlike United States trade with Japan and Taiwan, Sino-American trade has continued to show a significant surplus in the United States favor. This surplus accounts for China's interest in finding new exports to sell to United States buyers and her reluctance to enter into agreements that limit her access to the American market.

Among the important contracts negotiated with American firms during the last year were a \$500-million deal with Intercontinental Hotels to build a half dozen new hotels in China, and a \$1-billion agreement with United States Steel to help develop what was described as "the world's largest iron ore mining facility" near the northeastern city of Anshan.²¹ As was true of the Japanese contracts discussed, the American firms have discovered that these agreements are not final contracts.

Financing arrangements for Chinese imports from the United States tended to lag behind those con-

¹⁸ *Wall Street Journal*, February 2, 1979.

¹⁹ *The New York Times*, November 25, 1978 and January 11, 1979; *The Christian Science Monitor*, May 5, 1979.

²⁰ U.S. Commerce Department, Office of East-West Policy and Planning, *op. cit.*

²¹ *The New York Times*, November 10, 1978; *Journal of Commerce*, January 8, 1979.

cluded in Europe and Japan. In part, this was due to the late entry of the United States into the field. In part, it was the result of high United States interest rates that were not competitive with loans the Chinese were able to negotiate elsewhere. It also resulted in part from legal restraints on the United States Export-Import Bank that make it difficult for that agency to cooperate with private institutions to make credit packages available to the Chinese. Finally, the lag derived in part from the fact that American banks are restricted by law as to the amount they can lend a single borrower. Like the Soviet Union, China makes the central government the borrowing agency for all foreign credits. Bankers are interested in persuading the Chinese to follow the example of countries like Poland, which, by diversifying their borrowing agencies, have acquired access to significantly increased credit resources. Despite these problems, the Chase Manhattan Bank announced in late March that it had extended the first United States bank loan to China in 30 years, as part of a package arrangement with a number of United States firms for the design and construction of a \$350-million trade center in Beijing.

More concerned with results than with principles, China's current leaders are firmly committed to forms of economic interaction with the industrial nations that would once have been unacceptable. No longer a young man, Deng Xiaoping apparently believes that the new arrangements will prolong his pragmatic approach to China's economy. As these arrangements proliferate, both China and the United States need a clear-eyed realism with regard to their potential and their limitations, so that neither state will have to deal with disillusionment and frustration later. ■

BOOK REVIEWS

(Continued from page 79)

The author examines at great length and with detailed documentation the reasons for his conclusions about Chinese behavior in the global "political system" of the 1970's. The many tables and figures and the list of abbreviations are of great value in clarifying the text which reads well for such a detailed study. O.E.S.

CHINA'S ECONOMY: A BASIC GUIDE. By Christopher Howe. (New York: Basic Books, Publishers, 1979. 248 pages, appendices, biographical data, chronology, notes and index. \$16.00, cloth; \$4.95, paper.)

Christopher Howe has written of the development of the Chinese economy since 1949 and the changes that have ensued since the death of Chairman Mao Zedong in 1976. One result, certainly, has been that China's current leaders blame many of their economic failures or lack of real progress on

the now disgraced Gang of Four. Howe believes that, in spite of some progress, "finding an effective way of ensuring that skilled people are used in the most effective way will remain a central problem for China's political and economic systems." The establishment of careful, centralized "planning systems will continue to be a major policy objective."

During the 1970's, exceptional efforts have been made to improve agricultural methods and science and to make new techniques available to the people. This program has had some success, although there are indications that rural literacy standards are not high enough to provide the necessary technical leadership. As far as foreign trade is concerned, China is reaching out further into the world, although the Chinese are undoubtedly still prepared to sacrifice the economic for the "political good." The Chinese economy must still reach a level of development "where it is possible to improve the standard of living of one group without reducing that of another."

The tables, maps and notes that accompany this text are of value for a student. O.E.S.

DRAGON AND EAGLE: UNITED STATES-CHINA RELATIONS PAST AND FUTURE. Edited by Michael Oksenberg and Robert B. Oxnam. (New York: Basic Books, Publishers, 1978. 384 pages, bibliography and index, \$13.50.)

The editors of this book have selected a group of essays by China specialists to show United States-China relations past, present and future. The essays deal with trade and cultural relations, the problems raised by Korea, Japan and the Soviet Union and the problems involving Taiwan. Several of the authors even anticipate the new United States-China diplomatic relationship. It is to be regretted that the book came out just too early to have a section on this new agreement and the changed relationship with Taiwan. O.E.S.

A MATTER OF TWO CHINAS. By William R. Kintner and John F. Copper. (Philadelphia: Foreign Policy Research Institute, 1979. 127 pages and notes, \$6.00 paper.)

The authors believe that the "matter of the two Chinas," which has recently become an important reality for the United States, should be understood in perspective. On December 15, 1978, President Jimmy Carter announced that as of January 1, 1979, the United States and China would establish formal diplomatic relations and that the United States Defense Act with the Republic of China (Taiwan) would terminate at the end of 1979. This posed new and different problems for the United States. The authors examine the problems and evaluate possible solutions in this short but interesting work. O.E.S.

THE MONTH IN REVIEW

A Current History chronology covering the most important events of July, 1979, to provide a day-by-day summary of world affairs.

INTERNATIONAL

Arab League

July 2—The Ministerial Council of the Arab League ends a 2-day meeting in Tunis; Tunisian Chedli Klibi is elected Secretary General of the Arab League.

Arms Limitation

(See also *U.S., Legislation*)

July 1—U.S. Senate majority leader Robert Byrd (D., W. Va.) arrives in Leningrad before going to Moscow to discuss problems connected with Senate approval for the Strategic Arms Limitation Treaty (SALT II).

July 10—The Soviet Union and the U.S. submit a jointly prepared draft of a treaty to outlaw weapons that spread radioactive materials without a nuclear explosion (radio-logical weapons) to the 39-nation disarmament conference in Geneva.

International Monetary Fund

July 3—The boards of the World Bank and the International Monetary Fund (IMF) disclose that the Palestine Liberation Organization has applied for observer status at the IMF's September meetings.

Middle East

(See also *Israel*)

July 2—U.S. Special Ambassador for the Middle East Robert Strauss meets with Israeli Prime Minister Menachem Begin in Jerusalem and reiterates the U.S. objection to Israel's establishment of new settlements on the West Bank of the Jordan River.

July 6—Egyptian and Israeli negotiators in Alexandria, Egypt, agree to the establishment of "working groups" to handle difficult issues so that the negotiations can continue.

July 23—The U.S. State Department criticizes the July 22 Israeli air raids along the Lebanese coast.

July 24—In Cannes, PLO chief of military operations Zuheir Mohsen is assassinated.

July 29—U.S. Secretary of State Cyrus Vance invites Egypt and Israel to send high-level representatives to Washington, D.C., this week to discuss the U.S. proposal that a team from the U.N. Truce Supervision Organization, instead of the 4,000-man U.N. Emergency Force (whose mandate has expired) should supervise Israeli troop withdrawals from the Sinai (see map). Israel, whose Cabinet rejected the U.S. proposal July 22, will send Foreign Minister Moshe Dayan; Egypt has not yet accepted the invitation.

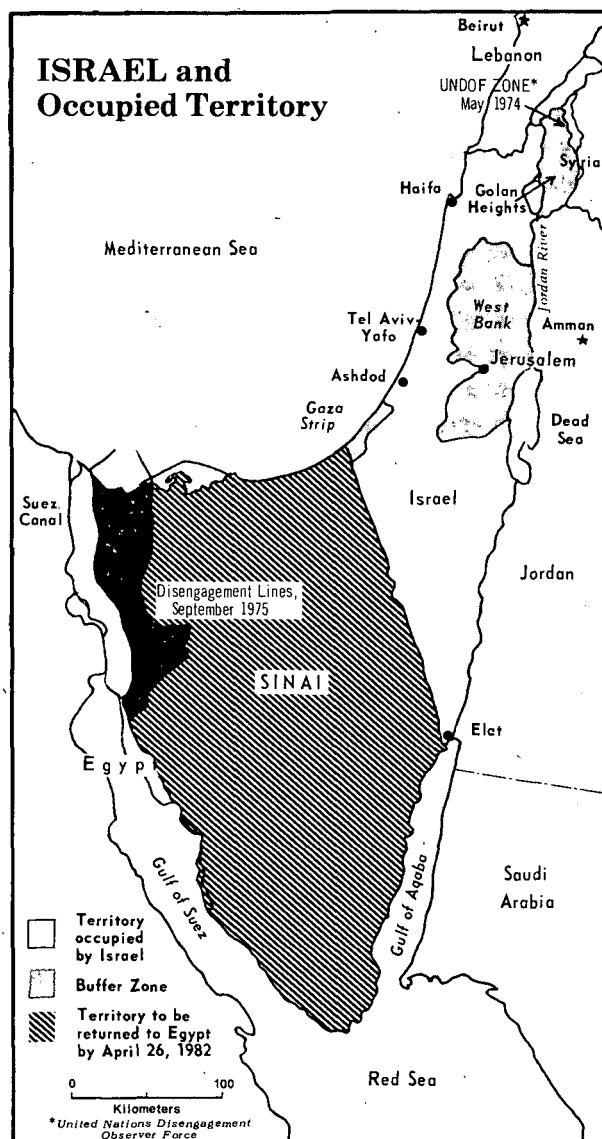
Organization of African Unity (OAU)

July 7—The foreign ministers of the OAU begin a 10-day meeting in Monrovia, Liberia.

July 17—The heads of government of the 49 members of the OAU begin their 16th annual meeting in Monrovia; King Hassan II of Morocco is represented by his Foreign Minister, Mohammed Boucette.

July 19—Liberian President William Tolbert, Jr., is selected chairman of the OAU.

The OAU calls for a U.N.-supervised referendum on the Western Sahara's future; 33 nations approve the resolution; 2 oppose it and 13 abstain or walk out.



Southeast Asian Refugee Problem

July 2—U.S. Secretary of State Cyrus Vance meets in Kuta, Indonesia, with the foreign ministers of the 5 members of the Association of Southeast Asian Nations (ASEAN) in an effort to persuade the ASEAN countries to liberalize their harsh stands barring from their countries any additional Indochinese refugees and expelling those already there.

July 5—At the close of a 2-day meeting of representatives

of the 3 countries in the ANZUS alliance, the U.S., Australia and New Zealand, say that Vietnam must aid in solving the Indochinese refugee problem with "a more regular outflow which we can handle in terms of the immigration of refugees."

July 7—Vietnam's Foreign Ministry blames the U.S. and China for the refugee problem, saying: "it is United States imperialism and the Beijing authorities that have triggered the outflow of hundreds of thousands . . ."

July 18—Canadian Secretary of State for External Affairs Flora MacDonald says that Canada will take 3 times her current 1,000 refugees a month.

July 20—A 65-nation parley on Indochinese refugees opens in Geneva; Vietnamese Deputy Foreign Minister Phan Hien asks the nations of the world to accept more refugees.

July 21—U.N. Secretary General Kurt Waldheim tells the conference that he has Vietnam's agreement "for a reasonable period of time . . . to make every effort to stop illegal departures."

Addressing the Geneva Refugee Parley, U.S. Vice President Walter Mondale says that U.S. President Jimmy Carter has ordered the U.S. Navy to send 4 ships to the South China Sea to pick up "tens of thousands of refugees" at sea; U.S. Navy planes are ordered to fly regular patrols in the area to help spot refugees in trouble.

July 23—U.S. State Department officials say the U.S. and Vietnam have agreed in principle that U.S. consular officers should go to Ho Chi Minh City to process visas for people wanting to emigrate to the United States.

July 29—3 Italian naval vessels pick up some 200 refugees in the South China Sea.

United Nations

(See *Intl. Middle East; Southeast Asian Refugee Problem; Israel*)

July 3—After 7 years, the U.N. Committee on Outer Space approves a treaty regulating the exploitation of the resources of the moon; the treaty declares the moon's resources "the common heritage of man."

July 11—Despite Soviet and Japanese protests, the International Whaling Commission bans the use of factory ships in all whaling except for minke whales; the ban is designed to save the sperm whale, which is considered a seriously endangered species.

July 13—The International Whaling Commission votes to establish a whaling sanctuary in the Indian Ocean; the ban on whaling will last at least 10 years.

July 19—The U.N. Conference on the Law of the Sea resumes its negotiations in New York.

AFGHANISTAN

July 5—A Pakistani newspaper reports that Muslim rebel forces won a 10-week siege when government forces were airlifted out of Gomal Fort, 150 miles south of Kabul. Rebel forces claim the fort. Since the April, 1978, coup d'état, Soviet-supported government forces have been unable to quell Muslim uprisings; rebel forces now control most of the country.

July 22—The U.S. State Department reports that more than 3,000 political prisoners have been executed by the government.

July 23—In Washington, D.C., U.S. State Department spokesman Hodding Carter 3d says that most U.S. government employees and their families will be moved out of the country because of the increasing fighting.

ALGERIA

July 4—The government announces that it has released former President Ahmed Ben Bella, who has been under house arrest since 1965 when he was deposed as President by the late President Houari Boumediene.

BOLIVIA

July 1—Nationwide presidential and congressional elections are held. The country has been under military rule for 13 years.

July 30—Former President Hernán Siles Zuazo of the Popular Democratic Union wins the election, according to official election returns published today. Former President Victor Paz Estenssoro of the National Revolutionary Movement comes in 2d; former military leader General Hugo Banzer Suarez comes in 3d. Since no candidate received 50 percent of the popular vote, the recently elected Congress is scheduled to select the President on August 1.

Leftist candidate Siles calls the election fraudulent and orders a "popular mobilization" of workers and peasants.

CAMBODIA

July 28—A people's revolutionary tribunal is established to try members of the former government of Pol Pot.

CHILE

July 9—It is reported that last week Minister of Labor José Piñera announced controversial legislation that he says assures workers of the right to organize and to engage in collective bargaining "without being dominated by labor politicians and government bureaucrats." However, head of the copper workers' union Bernardino Castillo says the legislation's revocation of job protection in the state copper mines is "entirely unexpected and rips up guarantees built up over 30 years."

July 11—In Santiago, the Supreme Court begins hearings on a U.S. appeal from a lower court ruling that denied the extradition of 3 Chilean army officers indicted for the 1976 murder of Orlando Letelier in Washington, D.C.

CHINA

(See also *U.S.S.R.; Vietnam*)

July 1—The National People's Congress appoints 3 senior economic specialists as Deputy Prime Ministers: Chen Yun, who will also head the newly created State Finance and Economic Commission; Bo Yibo, who was a Deputy Prime Minister before the Cultural Revolution; and Yao Yilin, former Minister of Commerce who was purged during the Cultural Revolution.

The Congress appoints the former mayor of Beijing, Peng Zhen, as vice chairman of a standing committee. Peng, removed from office by Chairman Mao Zedong during the Cultural Revolution, was imprisoned for 10 years.

The Congress adopts 7 major legal codes including a criminal code, the first the country has had since 1949.

July 7—In Beijing, U.S. Ambassador to China Leonard Woodcock and Minister of Foreign Trade Li Qiang sign a 3-year trade agreement that grants China most-favored nation status. The U.S. Congress must approve the treaty.

July 8—The government publishes its first legislation on joint ventures; foreign companies will be permitted to invest in China and repatriate part of their profits.

CUBA

(See *Nicaragua*)

EGYPT

(See *Intl. Middle East; Israel; U.S., Foreign Policy*)

ETHIOPIA

July 14—Government forces launch a 3-front offensive against secessionist guerrillas in Eritrea.

GERMANY, WEST

July 3—The Bundestag votes 255 to 222 to remove the statute of limitations on murder.

July 6—The upper house of Parliament votes to abolish the statute of limitations on murder, thus permitting continued prosecution of Nazi war criminals.

GHANA

July 10—A runoff presidential election is held.

July 11—Hilla Limann is elected President; former Foreign Minister Victor Owusu concedes defeat.

INDIA

July 4—In Bangalore, members of both factions of the Congress party—Congress-O and Congress-I—announce the formation of a reunited Congress party.

July 11—In the last 3 days, 46 members of the ruling Janata party of Prime Minister Morarji Desai have resigned their seats in Parliament because of disagreements over policies and alliances.

July 15—In the face of a vote of no confidence tomorrow in Parliament, Prime Minister Desai resigns.

July 16—Deputy Prime Minister Charan Singh is elected leader of a splinter Janata party. He tells President H. Sanjiva Reddy he has sufficient support to form a new government.

July 18—President Reddy asks Y.B. Chavan, head of the newly reunited Congress party, to form a new government.

July 22—Chavan informs President Reddy that he is unable to form a new government.

The Janata party reaffirms Desai as party leader.

July 23—Former Prime Minister Indira Gandhi offers the support of her 71-member delegation to Charan Singh.

July 26—President Reddy asks Singh to form a new government.

July 27—Desai resigns as head of the Janata party; Jagjivan Ram succeeds him.

July 28—In New Delhi, Charan Singh of the Janata party is sworn in as Prime Minister along with 9 members of his 15-member Cabinet. Cabinet members include Congress party leader Y.B. Chavan as Deputy Prime Minister and Minister for Home Affairs, and members of the Socialist party. The Congress-I party of former Prime Minister Gandhi is not included in the Cabinet.

July 30—10 more officials are sworn in as Cabinet members; 6 of them are Congress party members.

IRAN

July 1—In the first crackdown on the foreign press, the government expels *Los Angeles Times* correspondent David Lamb.

July 2—Following a meeting with Ayatollah Ruhollah Khomeini, Prime Minister Mehdi Bazargan publicly acknowledges his dependence on the revolutionary militia.

July 5—Prime Minister Bazargan announces the na-

tionalization of a wide range of industries, including an affiliate of the U.S. General Motors Corporation.

July 8—In Teheran, Taghi Tarkani, a supporter of Ayatollah Khomeini, is assassinated by men who claim to belong to the Forghan Fighters (a clandestine right-wing fundamentalist group).

July 9—Ayatollah Khomeini announces a general amnesty for all those convicted of crimes under the Shah's regime except those involved in murder or torture.

July 10—Ayatollah Khomeini tells Brigadier General Saif Amir Rahimi to keep his post despite his dismissal yesterday by Defense Minister Taghi Riahi and Chief of Staff General Nasser Farbod. Rahimi's dismissal was endorsed by Prime Minister Bazargan.

July 11—In the 2d explosion in a week, oil pipelines that supply the Abadan refinery are destroyed. An Arab group calling itself Black Wednesday claims responsibility.

July 15—In Teheran, the chief of an Islamic komiteh and a close aide of Khomeini's, Hujaat al-Islam Shirazi, is assassinated.

July 16—Defense Minister Taghi Riahi resigns.

In Khurramshar, the scene of recent Arab terrorist attacks, the Islamic Revolutionary Guards (Pasdarans) execute 5 terrorists, arrest 40 people and patrol the streets.

July 18—Director of Planning and Budget Operations Ali Akbar Moinefar cancels construction of the export segment of a new natural gas pipeline. France, West Germany, Austria, Czechoslovakia, and the Soviet Union were to receive gas from Iran.

July 19—In a nationwide televised address, Prime Minister Bazargan announces that members of the Revolutionary Council will serve as deputy ministers in the Cabinet and that members of the Cabinet will participate in Revolutionary Council decisions.

July 22—Director of the foreign press in the Ministry of National Guidance orders *New York Times* correspondent Youssef M. Ibrahim to leave the country as soon as possible.

July 23—The government adopts a new press code for foreign correspondents; correspondents must remain in Teheran unless they have permission to travel; interviews with Iranians must be conducted in the presence of a representative of the Ministry of National Guidance.

Ayatollah Khomeini bans all music from Iranian radio and television.

Deputy Minister of the Economy Cyrus Ibrahimzadeh says the government will compensate foreign shareholders of nationalized companies at the "book value" of their assets before the February, 1979, revolution. He also says that new currency will be issued within a month.

July 26—In western Kurdistan, Kurdish rebels kill 20 government soldiers and wound 30 in a dispute over control of a road leading to Iraq.

July 31—In Paris, former Prime Minister Shahpur Bakhtiar (the last Prime Minister to serve in the government of Shah Mohammad Riza Pahlavi) denounces Ayatollah Khomeini and his "new dictatorship."

IRAQ

July 16—President Ahmed Hassan al-Bakr resigns for health reasons; Saddam Hussein is sworn in as President and chairman of the Revolutionary Command Council.

July 28—The official press agency confirms reports of an attempted coup on July 23 and the arrests of 5 leading Baath party officials and Command Council members.

ISRAEL(See also *Intl, Middle East*)

- July 1—Despite a request from the U.S. for restraint, the Cabinet votes to continue military attacks on Palestinian guerrilla bases in Lebanon.
- July 8—The Israeli Cabinet orders Israeli Ambassador to Austria Yaacov Doron to return home "for consultations." The Cabinet is protesting yesterday's meeting in Vienna of Palestinian Liberation Organization leader Yasir Arafat and Austrian Chancellor Bruno Kreisky and former West German Chancellor Willy Brandt.
- July 12—Prime Minister Menachem Begin returns from Alexandria, Egypt, where he met with Egyptian President Anwar Sadat.
- July 17—Navy gunships attack a Palestinian guerrilla camp in southern Lebanon.
- July 20—Israeli troops go ashore and attack Palestinian guerrillas in southern Lebanon; 4 guerrillas are reported killed.

The U.N. Security Council approves a resolution calling on Israel to refrain from establishing settlements on the occupied Arab land captured in the 1967 war.

- July 22—Israeli planes attack 3 villages along the Lebanese coast, killing 15 people and wounding 50.

The Cabinet rejects a U.S. plan to use troops of the U.N. Truce Supervision Organization to monitor Israel's return of Sinai land to Egypt, charging that the truce unit would serve at the discretion of U.N. Secretary General Kurt Waldheim whom they regard as anti-Israel.

- July 25—The Supreme Court dismisses a case brought by Arab residents of the West Bank and lifts a temporary ban on construction of new settlements in Matityahu in the occupied West Bank.

As part of the Egyptian-Israeli peace agreement, Israel turns over another 2,400 square miles of the Sinai Peninsula to Egypt.

- July 27—In Washington, D.C., Israeli Ambassador Ephraim Evron meets with U.S. Secretary of State Cyrus Vance. Vance is reportedly angered by the Israeli Cabinet's rejection of the U.S. plan to use the U.N. Truce Supervision Organization to monitor the Israeli withdrawal from the Sinai.
- July 30—Prime Minister Begin survives a vote of no confidence in Parliament by a vote of 58 to 48. The opposition has been calling for changes in the Cabinet because of domestic economic problems.

ITALY

- July 3—Communist party secretary Enrico Berlinguer announces that the party will end its support of the Christian Democrats and that it will become an opposition party.
- July 7—Caretaker Prime Minister Giulio Andreotti of the Christian Democratic party fails to form a new government.
- July 9—President Sandro Pertini asks Socialist party leader Bettino Craxi to try to form a new government.
- July 27—President Sandro Pertini asks Christian Democrat Filippo Maria Pandolfi, currently Minister of the Treasury, to try to form a new government.

JAPAN

- July 23—The Bank of Japan announces a 1 percent increase in its discount rate, to 5.25 percent.

KIRIBATI

- July 12—The Gilbert Islands receive their independence

from Great Britain after 87 years of British rule. Ieremia Tabai is President of the new South Pacific nation.

KOREA, NORTH(See also *U.S., Foreign Policy*)

- July 10—The Foreign Ministry rejects the recent U.S.-South Korean call for 3-way talks.

KOREA, SOUTH(See *U.S., Foreign Policy*)**LEBANON**(See also *Intl, Middle East; Israel*)

- July 2—President Elias Sarkis asks Prime Minister Selim al-Hoss to form a new Cabinet; the former Cabinet members resigned May 16.
- July 16—Prime Minister Hoss forms a new Cabinet made up of Muslims and Christians.
- July 27—Commander of the Israeli-supported Christian militia Major Saad Haddad says that he will pursue Palestine Liberation Organization guerrillas in areas regarded as off limits by U.N. peacekeeping forces.

LIBYA

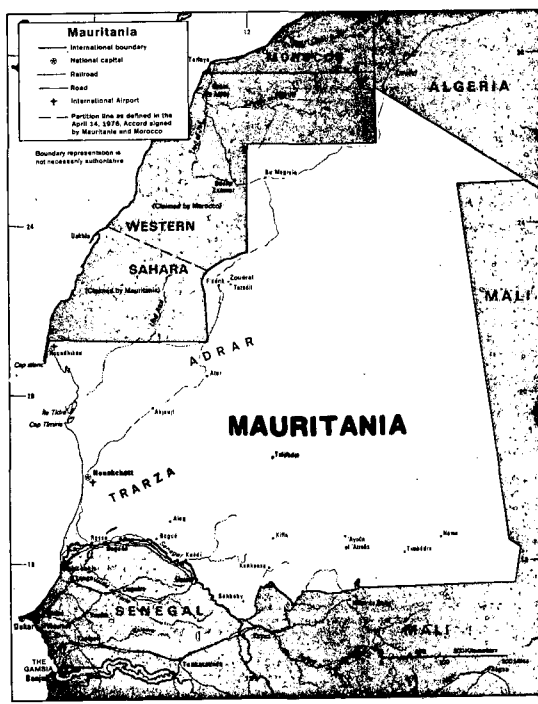
- July 1—Head of State Muammar el-Qaddafi amends an earlier statement, saying that it is too soon to say when or for how long his country will stop oil exports.
- July 12—In Damascus, Qaddafi promises to replace every Syrian fighter plane that Israel destroys.

LUXEMBOURG

- July 19—Following last month's general election, the new Cabinet of Prime Minister Pierre Werner, a Social Christian, is sworn in.

MAURITANIA

- July 14—Because no agreement has been reached on the status of the Western Sahara (see map), the Polisario Front ends its year-long cease-fire agreement with Mauritania.



MEXICO

July 1—Nationwide congressional elections are held; government troops guard the polling places because, for the first time in 33 years, Communist candidates are on the ballot.

July 3—The ruling Revolutionary Institutional party claims to have won 296 of the 400 congressional seats; the Communist party wins enough votes to qualify for a place on the 1982 presidential ballot.

NICARAGUA

July 2—The National Guard begins an attack on the Sandinist-held city of Masaya.

July 3—A recent U.S. intelligence report says there has been an increase in Cuban aid to Sandinist guerrillas, although the Cuban activity is cautious and limited.

The U.N. High Commissioner for Refugees allocates \$1 million in emergency funds to aid Nicaraguan refugees.

July 4—Diplomatic sources report that President Anastasio Somoza Debayle has promised to resign and go into exile once he assures the safety of the National Guard.

July 5—U.S. Assistant Secretary of State for Inter-American Affairs Viron P. Vaky meets with leaders of 6 Central American and Caribbean nations to work out a democratic solution for Nicaragua.

July 11—In San José, Costa Rica, U.S. envoy William G. Bowdler meets with members of the Revolutionary Government of National Reconstruction to set conditions for Somoza's resignation.

July 14—The provisional junta names an 18-member Cabinet, including businessmen, academicians, and a religious official; Tomás Borge is the only Cabinet member who is also a member of the Sandinist National Liberation Front.

July 17—Somoza leaves Nicaragua and flies to Miami, Florida; he is succeeded as President by Francisco Urcuyo Maleaño, a long-time aide, chosen by the Congress.

Urcuyo asserts that he will remain in power until the end of Somoza's term in 1981; he had originally agreed to serve as a transitional President until the provisional government of national reconstruction (Sandinist) could take over.

In Miami, Somoza claims that a Communist conspiracy was responsible for his fall from power, not the Nicaraguan people.

July 18—National Guard troops in Grenada, the 3d largest city, surrender to Sandinist guerrillas.

Acting President Urcuyo agrees to resign immediately; he flees to Guatemala.

July 19—National Guard commander Brigadier General Federico Mejía González abandons his command post and flees the country.

From its temporary headquarters in León, the provisional junta names Colonel Fulgencio Largaespada provisional commander of the National Guard; Largaespada orders all soldiers to turn in their arms and surrender to the Red Cross.

July 20—The provisional junta arrives in Managua and is sworn in as the ruling government; the junta dissolves Congress, abolishes the National Guard and expropriates the business holdings of former President Somoza.

Miguel d'Escoto is appointed Foreign Minister and Tomás Borge becomes Minister of Interior; Sergio Ramírez Mercado is head of the junta.

July 22—Roberto Argüello Hurtado is named head of the

Supreme Court.

July 24—The U.S. and Nicaragua agree to continue diplomatic relations.

July 26—The revolutionary government nationalizes the banking system; 7 private banks are affected, 6 of which will be compensated with government bonds; the 7th, wholly owned by the Somoza family, will be confiscated.

The government announces that it will not honor debts incurred by the Somoza government for \$4 million owed to Israel and \$3 million owed to Argentina for weapons for the National Guard.

In Havana, Cuban President Fidel Castro says he will send additional doctors and teachers to Nicaragua.

July 27—Nicaragua and Cuba establish diplomatic relations.

July 28—U.S. Ambassador Laurence A. Pezzullo returns to Managua and delivers a planeload of medical supplies "as an expression of goodwill" from the U.S.

July 29—Humberto Ortega Saavedra, a member of the ruling junta, announces that he and Luis Carrión Cruz will head the new Sandinist Popular Army.

NIGERIA

July 7—Nationwide elections are held for the Senate; elections for the House, state legislatures, state governors and the presidency will be held during the next month.

July 11—The Nigerian News Agency reports that the National party has won 36 of the 95 Senate seats, the Unity party 28; the People's party 16, the Great Nigeria People's party 8 and the People's Redemption party 7.

July 20—Lagos radio reports that in the July 14 elections for the House of Representatives, the National party won 168 seats, the Unity party 111, the People's party 78, the People's Redemption party 49 and the Great Nigerian People's party 43.

July 31—The government completes its takeover of the British Petroleum Company because the British government sells Nigerian crude oil to South Africa.

PERU

July 13—The military government of President Francisco Morales Bermúdez rejects a constitution proposed by the constituent assembly; the government is preparing for civilian rule on July 28, 1980.

PHILIPPINES

July 23—President Ferdinand E. Marcos names 10 new members to his Cabinet.

PORTUGAL

July 13—President Antonio Ramalho Eanes dissolves Parliament and calls for new elections.

July 19—President Eanes asks Maria de Lurdes Pintassilgo, Minister of Social Affairs in the government of Vasco Gonçalves, to form an interim government until parliamentary elections are held in the fall.

SAUDI ARABIA

(See U.S., Foreign Policy)

SOUTH AFRICA

July 28—The government agrees to pay the family of the late Steve Biko, a black leader who died in police custody in 1977, \$78,000 to settle a civil suit.

SPAIN

July 29—In Madrid, in 3 separate but synchronized ex-

plosions, bombs go off at Madrid's airport and 2 railway stations. 4 people are killed and 113 injured. ETA, the Basque separatist organization, had warned the press about the bombings.

July 30—Basque separatists (ETA) warn that they have planted bombs in all the tourist areas and that they will be exploded if ETA demands for the transfer of prisoners to their home areas are not met.

ST. LUCIA

July 3—In yesterday's parliamentary elections, the Labor party won 12 of the 17 House of Assembly seats; the United Workers party headed by Prime Minister John Compton won 5 seats.

UGANDA

July 2—In Dar es Salaam, Tanzanian President Julius K. Nyerere and Ugandan President Godfrey L. Binaisa meet to discuss Ugandan problems.

July 8—Tanzanian officials release former President Yusufu K. Lule from detention. Tanzanian officials have previously denied that Lule was being detained there; he flies to London.

U.S.S.R.

July 24—It is reported that a Chinese soldier was killed in a border clash in Soviet East Kazakhstan Province by Soviet border guards on July 16.

July 25—The government accepts a Chinese proposal to hold talks in September on improving relations between the 2 countries.

UNITED KINGDOM

(See also *Kiribati; Nigeria; Zambia*)

Great Britain

July 1—In an address to the National Press Club in Canberra, Prime Minister Margaret Thatcher says that British sanctions against Zimbabwe-Rhodesia "will lapse in November and we doubt very much whether a renewal will go through the British Parliament."

July 26—The government issues plans to curtail the scope of the British National Oil Corporation and to make some of its assets available to private investors.

UNITED STATES

Administration

July 1—Speaking to reporters aboard Air Force One as he returns from Seoul, South Korea, President Jimmy Carter says, "I think the OPEC decision [the 16 percent price rise of June 28] will make a recession much more likely than it was before." The President said the action could cost the U.S. 800,000 jobs, could cut economic growth by 2.5 percent and could increase the nation's inflation rate by 2.5 percent by the end of 1980.

July 4—President Carter cancels his July 5 nationwide address on energy; no reason for the cancellation is given.

July 5—White House press secretary Jody Powell issues a statement saying that "the President is in the process of assessing major domestic issues . . . which include, but go beyond the question of energy." The President will confer with "a number of individuals whose judgment he respects . . ." at Camp David.

July 6—President Carter cancels his trip to the National Governors Association, meeting in Louisville, Kentucky,

in order to meet at Camp David with top aides, advisers and eight governors.

July 8—In Louisville, Vice President Walter Mondale addresses the National Governors Association instead of President Carter.

July 9—Deputy White House press secretary Rex Granum reports that "the President has expressed the appreciation of the American people" for the decision of Saudi Arabia to increase her production of crude oil "substantially," perhaps to an additional 1 million barrels a day.

Deputy Secretary of Energy John O'Leary submits his resignation, according to White House sources.

July 10—At Camp David, President Carter signs a proclamation requiring that air conditioning in commercial, government and most public buildings be maintained at temperatures no lower than 78°F. this summer.

The Federal Aviation Administration issues a 70-page study of the May 25 crash of an American Airlines DC-10 in Chicago; the study blames airline maintenance procedures that caused the engine mount to give way.

White House press secretary Jody Powell announces that President Carter has decided not to remove price controls on gasoline.

July 11—President Carter concludes his series of conferences at Camp David with a wide range of advisers; he will remain and prepare his energy address to the nation.

July 12—In two 3-0 decisions, the U.S. Court of Appeals for the District of Columbia overturns lower court rulings and sends back for review 2 cases involving former President Richard Nixon and top aides who were sued for authorizing wiretaps on former national security aide Morton Halperin and *New York Times* correspondent Hedrick Smith. The appeals court rules that Richard Nixon violated the 1968 law limiting wiretaps to national security matters. In the other 3-0 decision, the appeals court upholds the lower court ruling that "Presidents are scarcely immune from the judicial process"; according to the decisions, Nixon and top aides may be held liable for civil damages for their violation of the 1968 law.

The President's Commission on Coal sends a 22-page report to President Carter that urges a \$159-billion investment in coal-burning power plants and construction within 10 years of 50 plants for the conversion of coal to synthetic petroleum products.

July 13—In a 2 1/2 hour meeting with reporters at Camp David, President Carter indicates that his energy program will save 5 million barrels of oil a day by 1990.

The Federal Aviation Administration lifts its May 29 ban on flights of the nation's 138 DC-10's; unusually strict inspection of the planes must be made at regular intervals.

July 15—In a televised speech from the White House, President Carter outlines his proposals on energy; the President says he will limit U.S. oil imports to less than the 8.5 million barrels a day limit he accepted at the Tokyo summit talks last month; he sets a goal of cutting imports by 4.5 million barrels a day by 1990; he also sets goals for the production of synthetic fuels, conversion to coal by utilities, conservation, a windfall profits tax on oil companies and increased financial aid to mass transit and the poor. The President speaks without the usual advance text or congressional briefings.

July 16—In addresses in Detroit and Kansas City, President Carter announces that the U.S. will spend \$140 billion in the next 10 years "so that never again will our nation's independence be hostage to foreign oil." The President also announces an 8.2 million barrels a day oil

import quota for 1979 and emphasizes the need for the further development of nuclear power.

July 17—At 2 separate meetings with the Cabinet and the senior White House staff, President Carter receives the oral resignations of all Cabinet officials; in Topeka, Kansas, Vice President Walter Mondale says there will be changes in the administration toward "a new emphasis, a new direction." White House press secretary Powell announces the resignations in Washington, D.C.

July 18—White House press secretary Powell announces that Hamilton Jordan will be White House chief of staff. In all, 34 top administration people have resigned.

July 19—President Carter accepts the resignations of Secretary of Health, Education and Welfare Joseph Califano, Jr., and Secretary of the Treasury W. Michael Blumenthal; Attorney General Griffin Bell, who wants to return to private practice, is replaced by Deputy Attorney General Benjamin Civiletti. Secretary of Housing and Urban Development Patricia Harris is named to succeed Califano; Chairman of the Federal Reserve Board G. William Miller is named to succeed Blumenthal.

Assistant Attorney General for antitrust affairs John Shenefield announces that President Carter has asked Congress to restrict mergers of the nation's largest oil companies with other companies that have assets over \$100 million unless it can be shown that the merger would "enhance competition."

July 20—President Carter accepts the resignation of Energy Secretary James Schlesinger from the "onerous responsibilities" of the Energy Department; Deputy Secretary of Defense Charles Duncan, Jr., is named to replace him.

Transportation Secretary Brock Adams resigns in anger over White House demands that he replace his chief deputy and because of his lack of access to the President; Secretary of the Navy W. Graham Clayton, Jr., will temporarily replace him.

At a White House news conference, President Jimmy Carter says that he has made changes in the Cabinet and staff for "constructive" purposes, that he does not expect to make more changes and that the "administration will now be better able to serve this country . . ."

July 22—White House chief of staff Hamilton Jordan says that President Carter intends to "broaden his circle of advisers."

July 25—President Carter nominates president of the Federal Reserve Bank of New York Paul Volcker to succeed G. William Miller as chairman of the Federal Reserve Board.

Retired editor-in-chief of Time, Inc., Hedley Donovan is named as a senior adviser to President Jimmy Carter.

July 27—Former mayor of New Orleans Moon Landrieu is named by President Carter as Secretary of Housing and Urban Development to succeed Patricia Harris, who replaced Califano at HEW.

The mayor of Portland, Oregon, Neil Goldschmidt, is named by President Carter as Secretary of Transportation to succeed Brock Adams; this completes the President's reorganization of his Cabinet.

July 31—President Jimmy Carter selects R. Robert Russell to succeed Barry Bosworth as chairman of the Council on Wage and Price Stability.

Economy

July 1—President Jimmy Carter says that in view of the increase in oil prices by OPEC a recession is "much more likely."

July 6—The Labor Department reports the nation's unemployment rate at 5.6 percent for June.

The Labor Department reports its producer price index rose by 0.5 percent in June.

July 12—Director of the Office of Management and Budget James McIntyre, Jr., releases a review that says the country is beginning an economic recession that will be mild and brief, although the number of unemployed may rise to about 7 million by November, 1980.

July 13—The Federal Reserve Board reports that U.S. industrial production fell by 0.3 percent in June.

July 18—In reaction to world uncertainty about President Carter's energy program and Cabinet shuffling, gold rises to \$303.85 per ounce on the London market, the 1st time gold has gone above \$300.

July 20—The Commerce Department reports that the gross national product fell by 3.3 percent in the 2d quarter of 1979.

The Federal Reserve Board raises its discount rate 0.5 percent to 10 percent.

July 23—The price of gold rises to record new highs of \$304.25 an ounce in London and \$305.625 in Zurich.

July 26—The Labor Department reports a 1 percent rise in its consumer price index for June; the annual inflation rate was 13.2 percent in the 1st half of 1979.

July 27—Major U.S. banks raise their prime rate from 11.5 percent to 11.75 percent.

The Commerce Department reports that in June the U.S. foreign trade deficit declined to \$1.9 billion; the total deficit for the 1st half of 1979 was \$11.7 billion.

July 30—The Labor Department reports that U.S. productivity fell at a rate of 3.8 percent in the 2d quarter of 1979.

July 31—The Commerce Department reports that its composite index of leading indicators fell 0.1 percent in June.

Foreign Policy

(See also *Intl. Middle East; Afghanistan; China; Israel; Nicaragua; Zimbabwe-Rhodesia*)

July 1—President Jimmy Carter leaves Seoul, South Korea, to return home; according to a joint communiqué issued by President Carter and South Korean President Park Chung Hee, the Presidents discussed the recent diplomatic changes in Asia, the problems of refugees, security issues, possible resumption of talks with North Korea and the human rights issue as well as the bonds of friendship between the U.S. and South Korea.

U.S. Secretary of State Cyrus Vance discloses that yesterday he gave a list of over 100 alleged political prisoners in South Korea to South Korean Foreign Minister Park Tong Jin, asking for investigation into the cases and release of the prisoners.

July 6—The State Department reports that the projected sale of 50 F-5E fighter planes to Egypt has been delayed because Saudi Arabia, who was to finance the purchase, has delayed making payment.

July 13—The State Department recommends the sale of additional military equipment to Saudi Arabia, worth \$1.2 billion, to help modernize 4 Saudi guard battalions.

A Library of Congress report issued today says that U.S. armed intervention in the Persian Gulf region and a possible takeover of the oil fields "would combine high costs with high risks," with poor prospects and "far-reaching political, economic, social . . ." and possible military consequences.

July 20—National security adviser Zbigniew Brzezinski says that President Carter has temporarily suspended the withdrawal of U.S. combat forces from South Korea at least until 1981; there are 32,000 U.S. combat troops in South Korea.

July 21—State Department spokesman Hodding Carter 3d says that the department has warned all American tankers and vessels to beware of hijacking attempts in the Strait of Hormuz between the Persian Gulf and the Indian Ocean on July 23, the 27th anniversary of the revolution that brought Gamel Abdel Nasser to power in Egypt.

July 31—Testifying before the Senate Foreign Relations Committee, former Secretary of State Henry Kissinger says he will recommend passage of SALT II only if President Carter is committed to continued increases in the U.S. military budget.

Labor and Industry

July 27—The General Motors Corporation announces an indefinite layoff for 12,600 hourly auto workers in plants around the country; this raises the number of unemployed auto industry workers to 44,000.

July 31—The Chrysler Corporation, reporting a second quarter loss of \$207.1 million, asks the government to grant it \$1 billion in the form of tax credits over the next 18 months.

Legislation

July 9—The Senate Foreign Relations Committee begins hearings on a strategic arms limitation treaty (SALT II).

July 10—By a 51 to 48 vote, 15 votes short of the necessary two-thirds majority, the Senate rejects a proposed constitutional amendment that would call for the popular election of the President and end the electoral college; it appears unlikely that the House will consider the matter.

July 17—The report of the House Assassinations Committee, made public today, concludes that conspiracy was "likely" in the assassinations of President John Kennedy and civil rights leader Martin Luther King, Jr.; the report says that earlier inquiries failed to investigate the possibility that organized crime conspired in the killing of Kennedy and that a right-wing group of businessmen conspired against King.

July 23—The Senate votes 90 to 4 to approve the trade liberalization pact negotiated with 99 nations in April in Geneva; the House passed the bill July 11 by a 395-7 vote; the bill goes to President Jimmy Carter.

July 31—The House votes 414 to 0 to censure Representative Charles Diggs, Jr. (D., Mich.), for his misuse of payroll funds.

The House votes 234 to 189 in favor of a standby gasoline rationing plan.

Military

July 19—Strategic Air Command exercises end today; on July 10, 2 unarmed Minuteman III ICBM's, the most advanced U.S. nuclear missiles, were launched from Vandenberg Air Force Base, California.

Nuclear Plant Accident

July 19—Testifying before a presidential commission investigating the Three Mile Island accident, senior engineers of the Babcock & Wilcox Company, builders of the failed nuclear power plant, concede that they failed to listen to warnings of possible trouble in the mechanical operation of the plant and in the training of plant operators in emergency situations.

July 26—In a July 20 memorandum, presidential domestic adviser Stuart Eizenstat says that President Carter has established a high-level task force including 5 Cabinet secretaries to submit recommendations for resolving civilian injury claims for radiation injuries resulting from

proximity to nuclear test sites no later than October 1, 1979.

Politics

July 10—The National Governors Association concludes its 71st annual meeting in Louisville.

Science and Space

July 11—The 77-ton Skylab space station enters the earth's atmosphere over the Indian Ocean and disintegrates over the Great Australian Desert; President Carter sends a note of apology to Australians.

A 6-year study by the Harvard Business School, made public today, says that conservation and the development of solar energy, rather than synthetic fuel programs, are the most economic and efficient way to reduce U.S. oil imports.

Supreme Court

July 2—In a 6-3 decision, the Supreme Court refuses to accept a constitutional challenge by the AFL-CIO to the government's use of its purchasing power to deny contracts to industries not obeying the wage-price guidelines.

In a 5-4 decision, the Court affirms a New York Court of Appeals ruling upholding the power of a trial judge to bar the public from pre-trial hearings if there is a "reasonable probability" that pre-trial publicity would hurt the defendant's case.

In an 8-1 ruling, the Court says a 1974 Massachusetts law requiring unmarried minor girls to obtain parental consent for an abortion is unconstitutional.

By 7-2 and 5-4 votes, the Court refuses to hear challenges in Columbus and Dayton, Ohio, to federal busing orders to achieve desegregation in the 2 cities.

VIETNAM

(See also *Intl. Southeast Asian Refugee Problem*)

July 11—The government accuses China of invading Vietnamese territory with a battalion of 1,500 soldiers and killing and wounding civilians.

ZAMBIA

July 27—Queen Elizabeth II of Great Britain arrives in Lusaka for a 9-day visit; she will address the opening session of the conference of Commonwealth leaders.

ZIMBABWE-RHODESIA

(See also *U.K.*)

July 1—Government forces raid black nationalist guerrilla camps in Zambia.

July 8—Prime Minister Abel T. Muzorewa leaves Salisbury for official visits to the U.S. and Great Britain.

July 11—In Washington, D.C., Muzorewa meets with U.S. President Jimmy Carter; Carter tells him the U.S. will not lift economic sanctions against Zimbabwe-Rhodesia.

July 13—In London, Muzorewa meets with Prime Minister Margaret Thatcher.

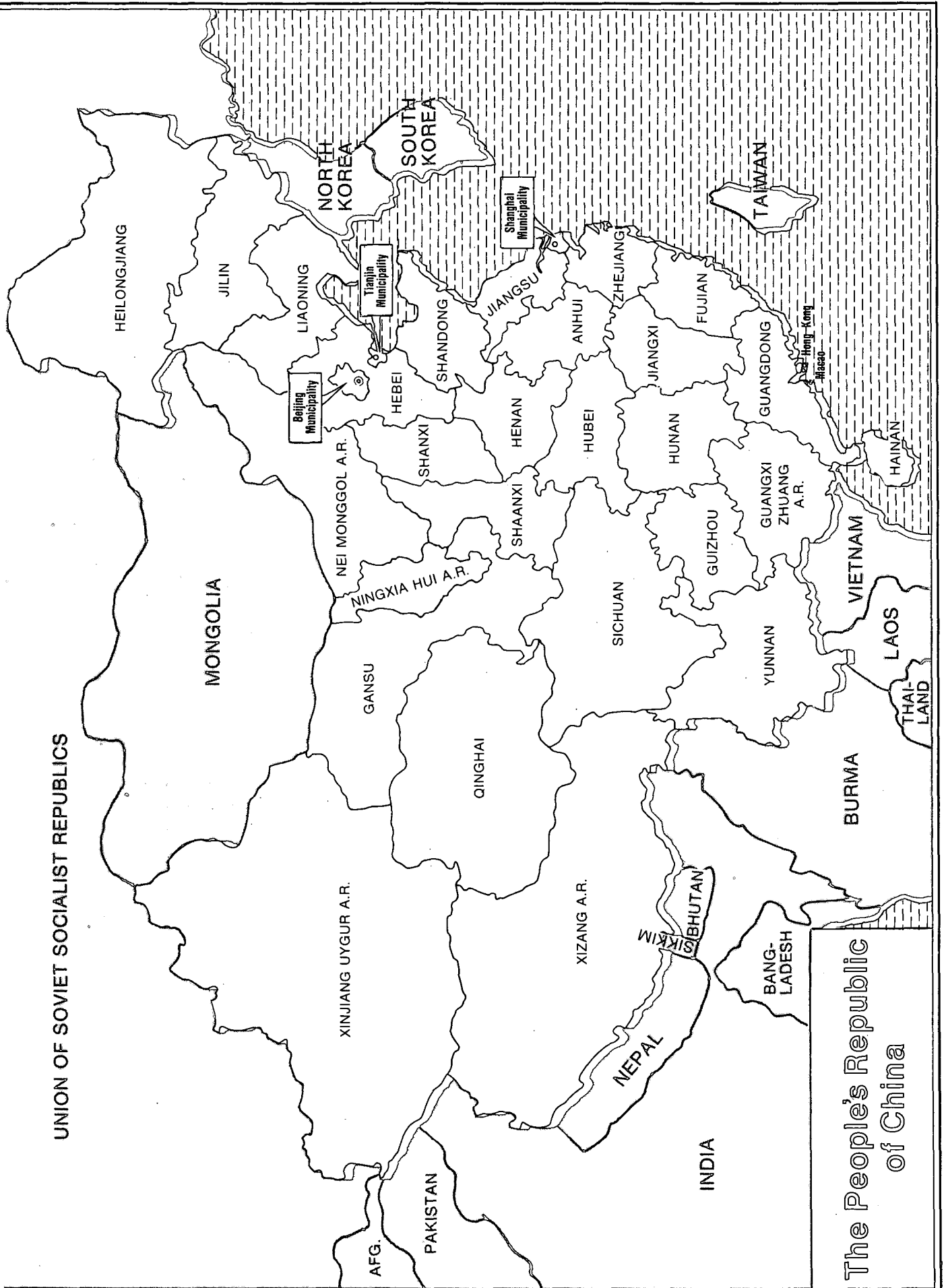
July 20—Government troops kill 183 members of the Zimbabwe African National Union's auxiliary forces.

July 23—Black nationalist guerrillas kidnap 40 Roman Catholic missionaries from a jungle mission and take them to Mozambique.

The Reverend Ndabaningi Sithole's Zimbabwe African National Union petitions the High Court to invalidate the recent parliamentary election. Sithole claims the election was rigged.

July 31—The Reverend Ndabaningi Sithole ends his boycott of the new government. He and his 12 elected members of Parliament will take their seats. ■

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